User Manual

HiDTV PRO™2.0

HiDTV™ Pro

Digital STREAM Technology, Inc.

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I. Introduction

I-1. Key Features of HiDTV PRO 2.0

HiDTV PRO is H/W DECODING TV card for professional user, receive digital broadcasting and support all HDTV format.

High Performance MPEG-2 Decoder

- MP@HL MPEG-2 Decoder
- Supports all ATSC-compliant video formats

PCI Bus Interface

- 32bit interface at 33MHz or 66MHz bus clock
- DMA master capability over PCI bus
- Transfer 704x240 video at 60 frame/sec through PCI bus

High Performance Display Processor

- Multiple output display format - 1920x1080i, 1280x720p, 1024x768p 704x480p, 704x480i,
- Letterbox and pan-and-scan options for displaying 16:9 video on 4:3 displays
- Sidebar option for displaying 4:3 video on 16:9 displays
- Graphics overlay plane with up to 24 bits per pixel
- Analog YPbPr (RGB) output for HDTV display or SD display in down-conversion mode
- VIP port (VIP 1.1) to PC graphics sub-system

Flexible Format Converter

- High-quality scan conversions from ATSC and NTSC source formats to a variety of output display formats
- High-quality up-conversion and down-conversion of source video to selected display format
- Integrated high-quality line-doubler

NTSC Video Integration

- Analog NTSC broadcasting reception, recording to MPEG-1 or MPEG-2.
- High-quality Analog NTSC viewing via VIP port (VIP 1.1)

Audio Integration & Processing

- Software audio decoding (AC-3)
- 5.1ch (AC-3) sound using S/PDIF output

Digital Recording

- TP stream Download & Play
- TP stream Download to D-VHS & Play from D-VHS

I-2. Before Installation

Please read this guide before attempting to install your card.

Caution! – Static Sensitive Component.
To avoid possible damage to your HiDTV PRO card and/or other system components from static electric charge, always discharge your body's static electric charge prior to handling the HiDTV PRO card or other system components. Discharging can be done either by using a properly grounded anti-static wrist strap or by simply touching the chassis of a grounded (plugged-in) computer. In addition, always handle the card by its edges whenever possible, to avoid mechanical damage to delicate components on the board.
The manufacturer assumes no liability for any damage, caused directly or indirectly, by improper installation of any components by unauthorized service personnel. If you do not feel comfortable performing the installation, consult a qualified computer technician.

I-3. System Requirements

PC

- Intel Pentium® II Celeron 333MHz
- 64MB RAM
- HDD: 7200rpm & support DMA (for MPEG-2 TS recording)

Minimum Hardware System Requirements

- Speakers
- Mouse
- CD-ROM 4x speed or higher
- 16 bit sound card or better
- Minimum 50MB of free HDD space. For recording TP stream, for MPEG-2 TS recording

Compatible Operating Systems

- Microsoft Windows 98 SE
- Microsoft Windows ME
- Microsoft Windows 2000
- Microsoft Windows XP

DirectX requirements

- Installation of DirectX 8.1 or higher **required** (contained in provided CD)

I-4. HiDTV PRO Package Contents (Standard edition only)

Packaging

List

① HiDTV PRO Card, ② User manual ③ CD (Driver, Application, User manual)

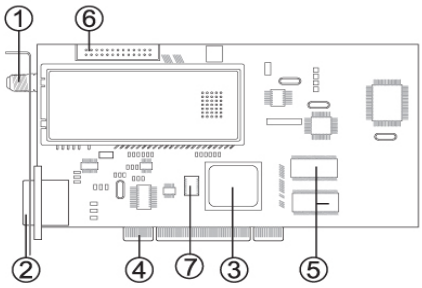
④ VIP cable ⑤ A/V extension cable ⑥ Audio cable ⑦ Remote controller

⑧ Remote controller receiver ⑨ 2 AAA battery

Attention: Call US customer support at (602) 912-0627 or email techsupport@pc-dtv.com if any parts of the HiDTV PRO package should be missing. Phone support hours are M-F from 10 AM – 6 PM and Saturdays 11 AM – 1 PM Arizona Standard Time.

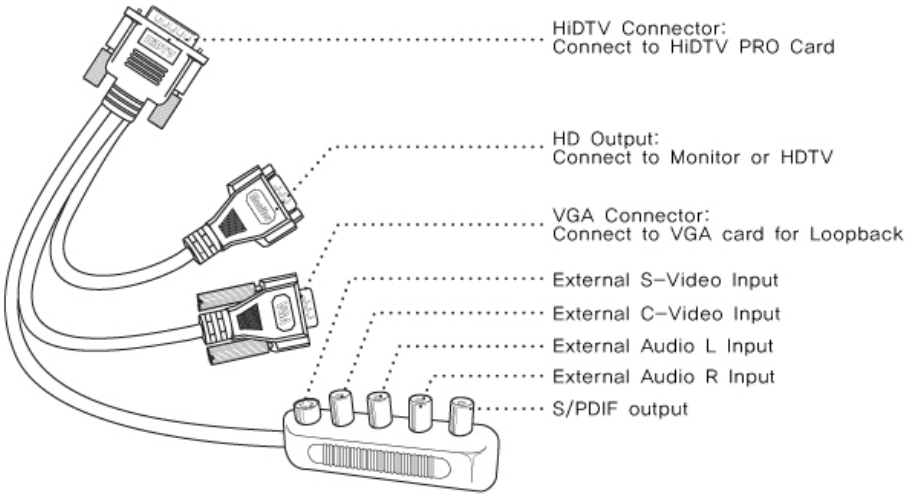
Configuration of HiDTV Card

On the mounting bracket, the HiDTV PRO board connectors are (from the top): ① NTSC/ATSC Antenna Input(F-type), ② A/V Extension Cable Connector(26-pin DIN). On the top edge of the board is the VIP1.1 connector. An ⑦ NTSC Analog Audio Output (LGGR) connector is located in the body of the card, as shown. The NTSC Analog Audio Output connects to the LINE-IN connector of most PC sound cards, which is how you hear audio when operating in NTSC TV mode.



①. ATSC/NTSC Antenna input (F-type)
②. A/V Extension Cable Connector (HDTV Output – Support RGB, YPbPr, Loop back, SPIDF, Audio L/R, C-Video, S-Video input)
③. MPEG-2 Decoder
④ PCI Connector
⑤ 16MB of High Performance SDRAM
⑥. VIP 1.1 Connector
⑦.NTSC Analog Audio Output

A/V Extension Cable



What is S/PDIF?

S/PDIF means Sony Philips Digital Interface. S/PDIF digital audio interface is a serial interface for transfer of mono or stereo audio data that have resolution of 24 bits per sample in a 32KHz, 44.1khz or 48khz sampling frequency. The specification of S/PDIF is defined at IEC958 and called type EIAJ CP-340. You can use the S/PDIF output of our Paddle card connecting it to an AMP or other audio devices that have a S/PDIF input port.

II. Hardware Installation

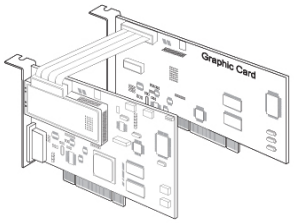
II-1. HiDTV PRO card

1. This chapter describes how to install the HiDTV PRO card in your PC and connecting card connectors. It also shows various cabling configurations. For best results, we recommend that you install the HiDTV PRO card in a newly formatted PC with a minimum of adapters installed. You can check the system requirements and compatibility list from our web site. (www.dstreamtech.com)
2. Now, follow the following steps to install your HiDTV PRO card.

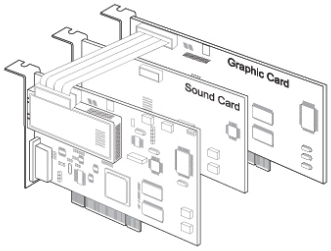
Caution! – Static Sensitive Component.

To avoid possible damage to your HiDTV PRO card and/or other system components from static electric charge, always discharge your body's static electric charge prior to handling the HiDTV PRO card or other system components. Discharging can be done either by using a properly grounded anti-static wrist strap or by simply touching the chassis of a grounded (plugged-in) computer. In addition, always handle the card by its edges whenever possible, to avoid mechanical damage to delicate components on the board.
The manufacturer assumes no liability for any damage, caused directly or indirectly, by improper installation of any components by unauthorized service personnel. If you do not feel comfortable performing the installation, consult a qualified computer technician.

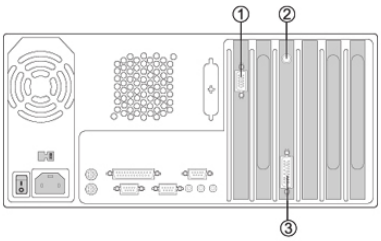
1. Power off your system and all peripheral devices. Unplug power cord.
2. Touch a metal part of your computer to ground yourself and to discharge any static electric charge.
3. Remove the computer cover. If necessary, consult your computer's manual for help in removing the cover.
4. Remove the metal plate from the free PCI expansion slot. Keep the screw and metal plate for future use.
5. If you have a graphic card supporting VIP 1.1, connect VIP cable to the graphic card as below. (VIP direction of several graphics cards is opposite. So, if you can't see the screen using VIP, connect to twist cable)



6. Connect NTSC Audio output of HiDTV PRO card to LINE-IN port in Sound card using Audio cable. If there is no LINE-IN port in Sound card, then connect to any remaining port. And remember that connection. That information will be needed in program setting.
7. Insert HiDTV PRO Card into the next PCI slot. Press the card gently and evenly into the slot until it is seated.

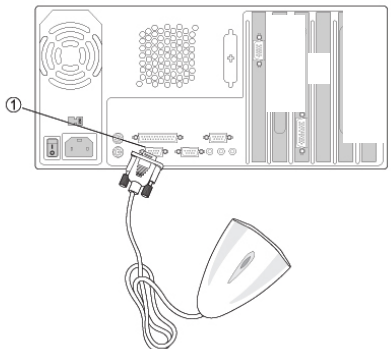


8. Secure the card to the slot with a screw.
9. Replace the computer cover.
10. Connect VHF/UHF antenna cable (75 Ω F-connector) to HiDTV PRO Card(② DTV RF in).



① VGA Monitor connector
② DTV RF in
③ A/V Extension cable connector

11. Connect Remote controller Receiver to Serial Port (9 pin) ① which is not used. Place Remote controller Receiver to proper position.



① 9 pin Serial Port

12. Plug the power cord black into the wall outlet..

In your PC booting process, Windows displays such messages as "find multimedia device" or "HiDTV PRO driver". Refer to Driver Install Section to install Driver of HiDTV PRO card.

NOTE: DMA Setting

HiDTV PRO card requires quite a large PCI data transfer bandwidth in operation. It is especially true in case of playing recorded file with VOP video display mode. To overcome this, it is strongly recommended that system DMA option is turned on. Compared with the conventional 33MHz DMA operation, more new and fast DMA technology is introduced in PC industry and available. Some old mainboard, however, was manufactured before Operating system complete support this functionality, causing wrong DMA operation without manufacturer-proprietary BIOS setting. Refer to the BIOS manual or manufacturer website to the correct setting. If you do not know how to configure, just use normal 33MHz conventional IDE port with DMA turned on in Windows. It is enough just doing that in recommended PC specification.

II-2. Connecting Cables

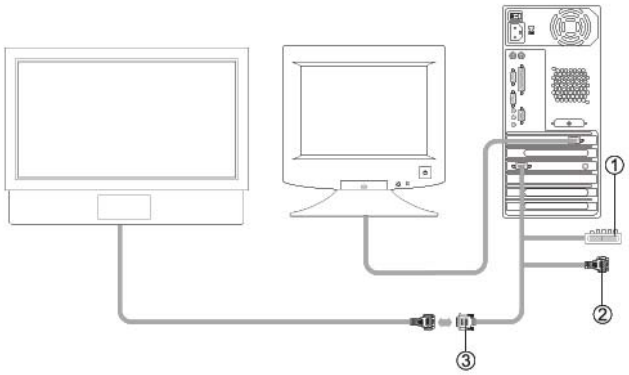
Connecting an Antenna

There are two basic cable configurations for the HiDTV PRO card.

- Dual-Monitor Configuration..
- VGA Loop-Back Configuration

Dual-Monitor Configuration

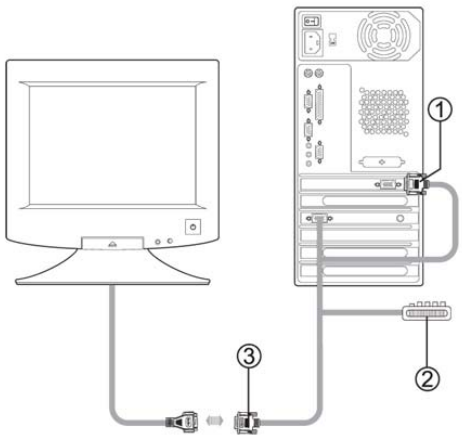
Video output from HiDTV PRO Card can be displayed on a separate HDTV or VGA monitor, without being mixed with VGA graphics. This configuration is best in terms of compatibility with systems and graphics boards. Use this configuration to validate and/or circumvent problems associated with various VGA card. Your HiDTV PRO card supports RGB out and YPbPr out. BNC cable is not offered.



1. Connect HiDTV connector of A/V Extension cable to HiDTV PRO card
2. Connect PC Monitor cable to VGA card
3. Connect Monitor connector of A/V Extension cable to Monitor displaying HDTV

VGA Loop-Back configuration

This configuration allows you to share a single monitor to display either VGA graphics or RGB video output by means of an analog switch. The VGA card display output is looped back into the HiDTV PRO card via its VGA loop-back input of A/V Extension cable. An analog switch on the HiDTV PRO card switches between the VGA loop-back input (default) and the HiDTV PRO HD video output. To display video, the switch is thrown such that HiDTV PRO video output appears on the VGA monitor. The VGA display, at that point, is not visible. To return to VGA display, the application software waits for the user to strike a key, at which point the display is switched back to VGA.

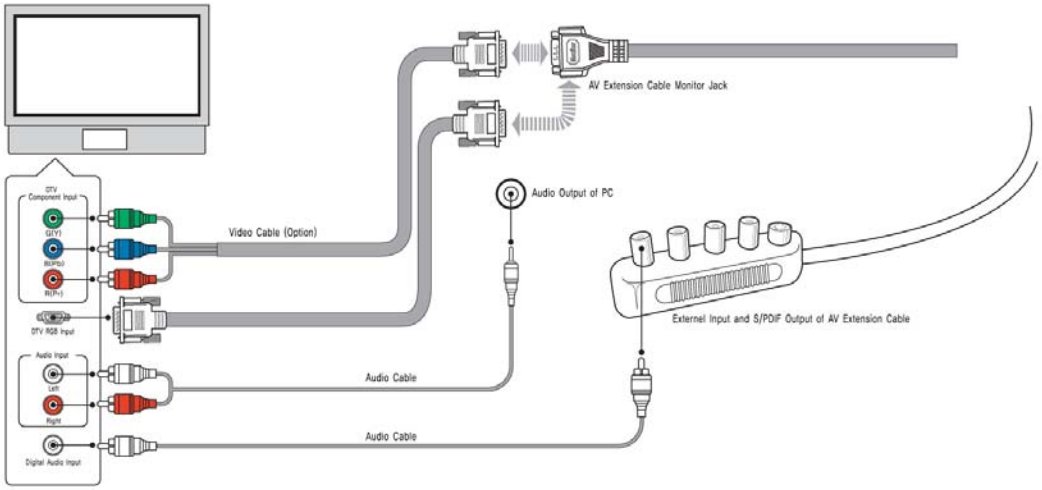


1. Connect VGA connector of A/V Extension cable to VGA card
2. Connect HiDTV connector of A/V Extension cable to HiDTV PRO card
3. Connect Monitor connector of A/V Extension cable to cable of Monitor

II-3. Connect to External Input/Output Source

Connect Video output of External input source (VCR, DVD Player, etc…) to S-Video input or C-Video input of A/V Extension cable, connect Audio output of External input source to Audio L/R input of A/V Extension cable.

Connecting to Digital TV (PDP)

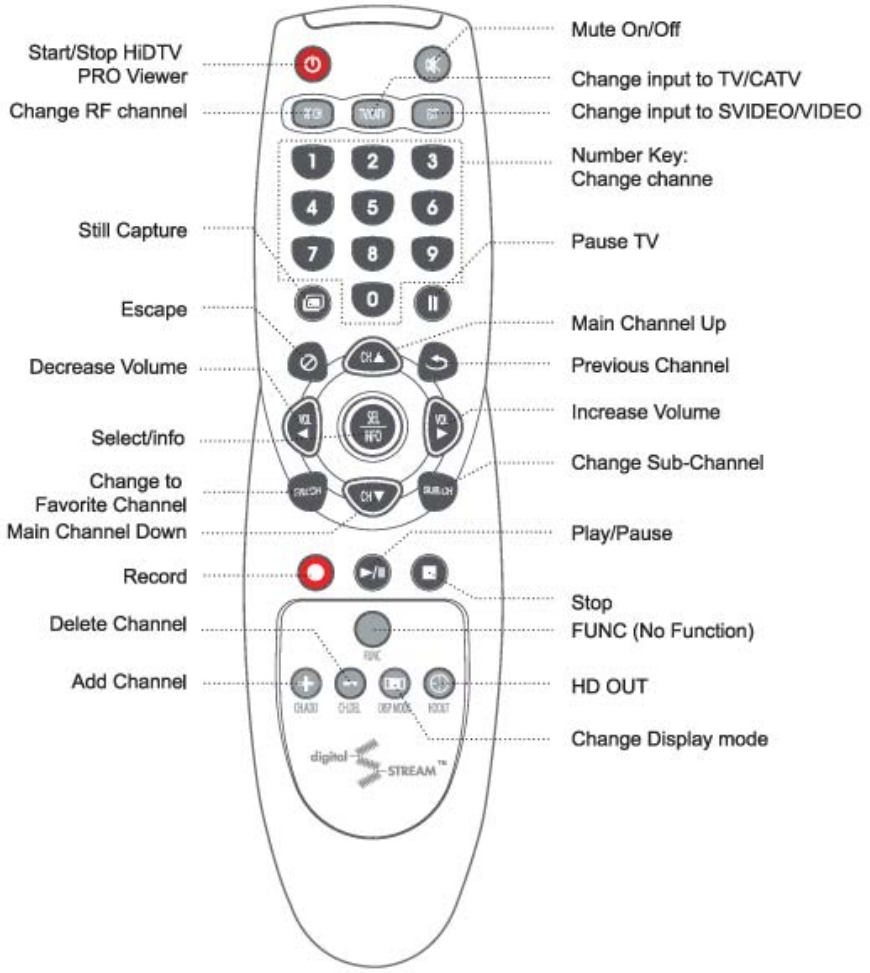

AV Extension Cable Monitor Jack
Audio Output of PC
Video Cable (Option)
External Input and S/PDIF Output of AV Extension Cable
Audio Cable
Audio Cable

Connect to Digital Audio Device

Connect S/PDIF output of A/V Extension cable to S/PDIF input of Digital Audio Device which can decode AC-3 digital audio.

II-4. Key Map of Remote Controller

(Only for HiDTV Pro "Standard Edition")



III. Software Installation

This section describes driver installation process for Windows 98SE, ME, Windows 2000 an XP.

If Operating System of PC is Windows 98 SE, we recommend you to copy OS installation files to HDD, because when installing Driver you have to change HiDTV PRO installation CD and Windows 98 SE CD that will be complicating.
Following section describes installation process assuming that OS installation files were copied to HDD.

III-1. Windows 98 SE or ME installation

Installing the HiDTV PRO drivers

1. After installing HiDTV PRO card on your system, turn on the system. Windows will detect the card automatically. A **New Hardware Found** message box and **Add New Hardware Wizard** appears. The found device name can be **PCI Multimedia Device** or **PCI Multimedia Video Device** according to searched sequence. Click **Next**.

Add New Hardware Wizard
This wizard searches for new drivers for:
PCI Multimedia Device
A device driver is a software program that makes a hardware device work.
< Back
Next >
Cancel

2. At the next wizard dialog, select the recommended option **Search for the best**

driver for your device and click **Next**.

Add New Hardware Wizard
What do you want Windows to do?
Search for the best driver for your device. (Recommended).
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

3. Windows will ask you the place to search the driver. Select the last option **Specify a location** and specify the driver directory using the browse button. Have your HiDTV CD-ROM ready and insert it in the CD-ROM drive. Please specify the Win98SE driver folder in the CD-ROM. Make sure you select the Windows 98 SE driver. The HiDTV CD-ROM offers drivers for Win98SE, ME, Win2000 and WinXP. If you use drivers for other OS, the behavior is undefined. Click **Next**.

Add New Hardware Wizard
Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.
Floppy disk drives
CD-ROM drive
Microsoft Windows Update
Specify a location:
D:\Driver\Win98SE
Browse...
< Back
Next >
Cancel

4. After searching, Windows reports the found device. The order of searched device can vary system by system, but the install procedure is similar for each devices. Click **Next**.

Add New Hardware Wizard
Windows driver file search for the device:
HiDTV PRO
Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue.
Location of driver:
D:\DRIVER\WIN98SE\HIDTV.INF
< Back
Next >
Cancel

5. While copying needed files, Windows may ask you to insert Windows Install Disk.

6. After copying needed files, Windows will report that driver installation is finished. Click **Finish**.

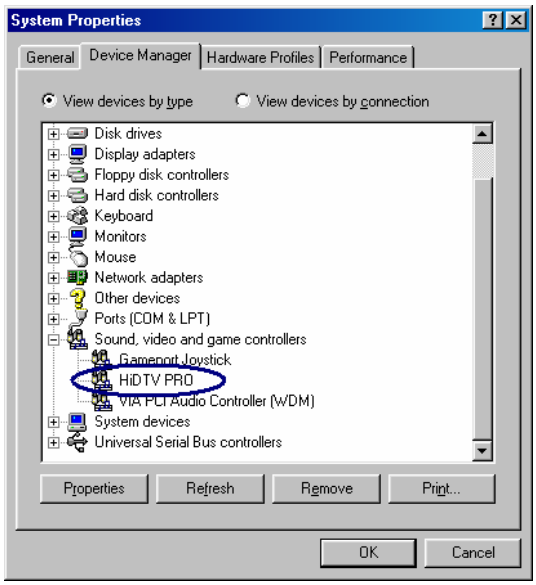
(!) If driver installation is failed, check whether OS files were copied to HDD. If OS files were not copied to HDD, copy OS files to HDD and try installation again.

7. Driver installation is completed. Restart System. Without restarting the system, the device will not work correctly.

8. After rebooting, you can confirm the results of the installation process at the system device manager's device list. You can see the HiDTV PRO device at **Sound, video and game controllers'** category.

To reach the device manager, follow these steps:

Start button → Settings → Control Panel → System icon → Device manager tab click

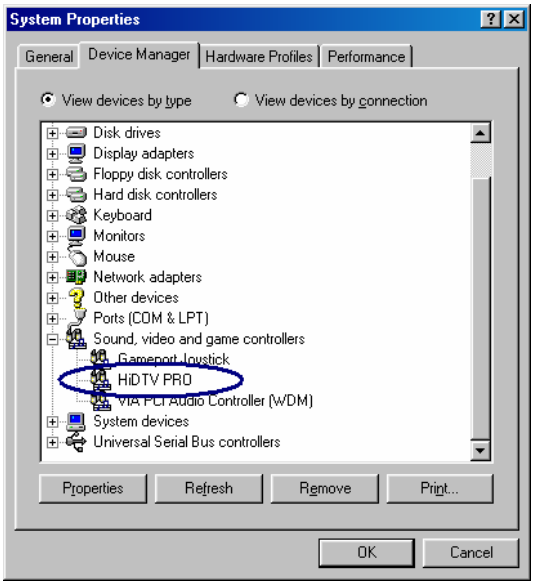


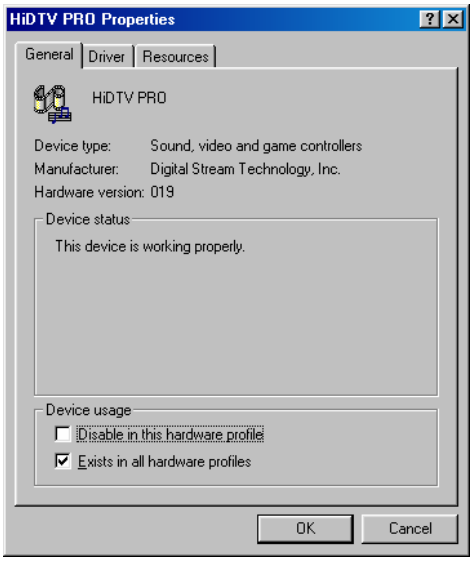
Verify successful HiDTV PRO driver installation

You should verify the results of the installation process in the system device manager's device list. You can find the HiDTV PRO device listed in the **Sound, video and game controllers'** category.

To reach the device manager, follow these steps:

Start button → Settings → Control Panel → System icon → Device manager tab click.





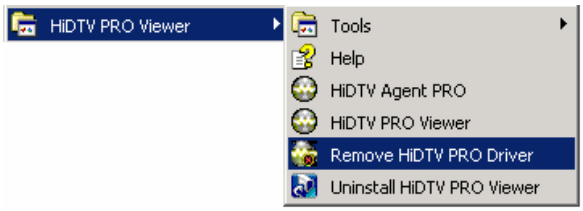
Select HiDTV PRO driver and click at the right button of mouse and select Properties menu. Select "General" tab and confirm that the device status is "This device is working properly". If the device status is not "This device is working properly", you need to reboot first or install the HiDTV PRO driver again, if the device is still not working properly.

Update or Un-installation of the HiDTV PRO driver

If the HiDTV PRO driver is not installed successfully or you want to uninstall the HiDTV PRO driver, refer to the following section.

PRODrvDelEng.exe is the uninstall utility of HiDTV PRO

With PRODrvDelEng.exe you can remove safely the HiDTV PRO driver. It is designed to uninstall any Windows 98SE, Windows ME, Windows 2000 or Windows XP driver installation. Double-Click "**Remove HiDTV PRO Driver**" icon in "HiDTV PRO Viewer" program group to run PRODrvDelEng.exe.

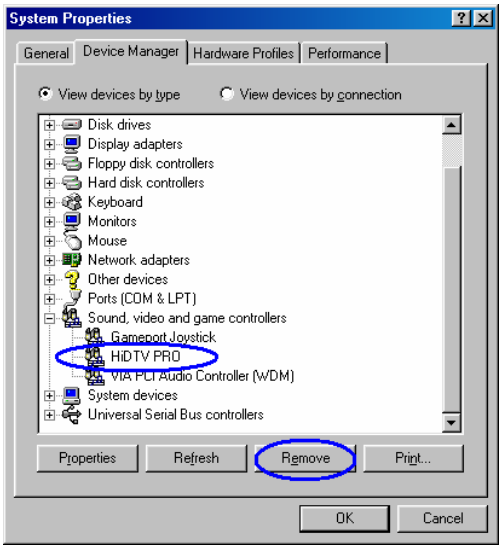


Run PRODrvDelEng.exe removes the HiDTV PRO driver. If you want to reinstall later on the HiDTV PRO driver, you must restart your computer first. After you successfully rebooted the computer, Windows will detect the card automatically. Please refer to the driver installation section on how to reinstall or install a new HiDTV PRO driver.

If PRODrvDelEng.exe does not exist

A-1. Select '**Control Panel**' -> '**System**' -> '**Device Manager**'.

A-2 In "**Sound, video and game controllers" category**, select '**HiDTV PRO'** and click on the '**Remove**' button.



A-3. If you click on the '**Remove**' button, the **'Confirm device remove'** dialog box appears. Click on the '**OK**' button to remove the driver. If Windows recommends you to restart system, **do not** reboot the system at this time. Please perform the steps as described in section **A-4** of this manual first, after the system should be rebooted. After the system restarted, install new HiDTV PRO driver.

A-4. Delete the following two Digital Stream Technology Inc. files:

- **HiDTV.INF** file in the **C:\Windows\Inf\Other** folder.
- **HiDTV.sys** file in the **C:\Windows\System32\Drivers** folder.

Note: Make sure that **"Show hidden files and folders" is selected** in Tools > Folder Options > View > Advanced settings: and **"hide protected operating system files"** is **unchecked**.

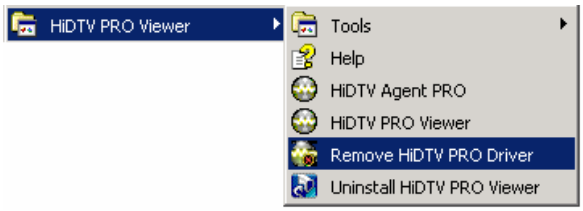
A-5. If Windows does not recommend rebooting the system, refer to manual section A-4 and Go to Control Panel > Device Manager > Click on Action in the toolbar > Select "Scan for Hardware changes"

Updating the HiDTV PRO driver

If you want to install or update a newer version of the HiDTV PRO driver, please refer to the following section:

PRODrvDelEng.exe is the uninstall utility of HiDTV PRO

With PRODrvDelEng.exe you can remove safely the HiDTV PRO driver. It is designed to uninstall any Windows 98SE, Windows ME, Windows 2000 or Windows XP driver installation. Double-Click "**Remove HiDTV PRO Driver**" icon in "HiDTV PRO Viewer" program group to run PRODrvDelEng.exe.



Run PRODrvDelEng.exe removes the HiDTV PRO driver. If you want to reinstall later on the HiDTV PRO driver, you must restart your computer first. After you successfully rebooted the computer, Windows will detect the card automatically. Please refer to the driver installation section on how to reinstall or install a new HiDTV PRO driver.

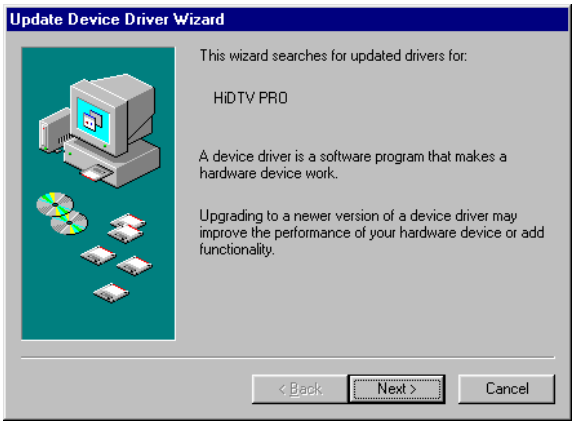
If PRODrvDelEng.exe does not exist

B-1. Select '**Control Panel**' -> '**System**' -> '**Device Manager**'.

B-2 In "**Sound, video and game controllers" category**, select '**HiDTV PRO'** and click on the '**Remove**' button.

B-3. Please select the '**Driver**' tab in HiDTV PRO Properties dialog, where you can see '**Driver File Details**' and '**Update Driver**' buttons. Click on '**Driver File Details**' button to verify the driver version information. Click on '**Update Driver**' button to update driver.

B-4. Click '**Next**' to search for a new driver.


Update Device Driver Wizard
This wizard searches for updated drivers for:
HiDTV PRO
A device driver is a software program that makes a hardware device work.
Upgrading to a newer version of a device driver may improve the performance of your hardware device or add functionality.
< Back
Next >
Cancel

B-5. Select '**Search for a newer driver than the one your device is using right now.**' and click on '**Next**'.

Update Device Driver Wizard
What do you want Windows to do?
Search for a better driver than the one your device is using now. (Recommended)
Display a list of all the drivers in a specific location, so you can select the driver you want.
< Back
Next >
Cancel

B-6. Select the directory or drive of where the new driver is located, continue with driver installation.

B-7. After the driver installation is completed, please restart system.

About DirectX !

The latest version of Microsoft® DirectX has some improvements and new functionalities. If you wish to upgrade your DirectX version, please refer to the release note of DirectX or the compatibility note from Digital Stream Tech.

The installation of the HiDTV PRO may not be complete successfully in the case that an old Windows 3.1 Multimedia CD-ROM title is installed or other programs that use their own particular Display Library which could cause a conflict with DirectX.

Note: So, if you installed HiDTV PRO, you need to be careful about installing certain programs that modify or update DirectX files.

We recommend DirectX version 8.1 or higher for the HiDTV PRO to perform reliable.

III-2. Installation on Windows 2000 or XP

Installation of the HiDTV PRO driver

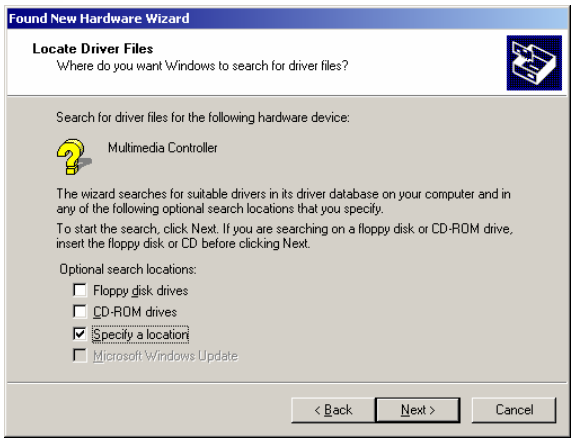
1. After installing the HiDTV PRO card drivers on your system, turn on the PC. Windows will detect the card automatically. A **New Hardware Found** message box and an **Add New Hardware Wizard** appear. The found device name can be **PCI Multimedia Device** or **PCI Multimedia Video Device,** depending on what the Windows OS detects first. Click **Next**.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

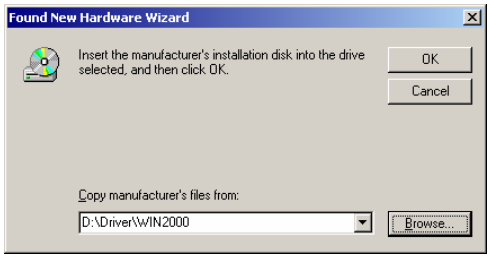
2. Select '**Search for a suitable driver for my device**' and click '**Next**'.

Found New Hardware Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
Multimedia Controller
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

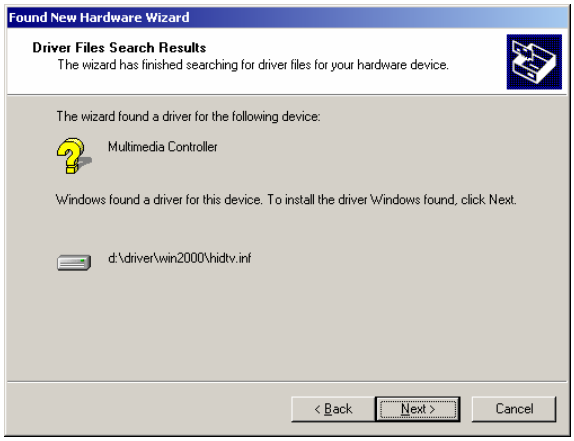
3. Select '**Specify a location**' and click '**Next**'.


Found New Hardware Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
Multimedia Controller
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

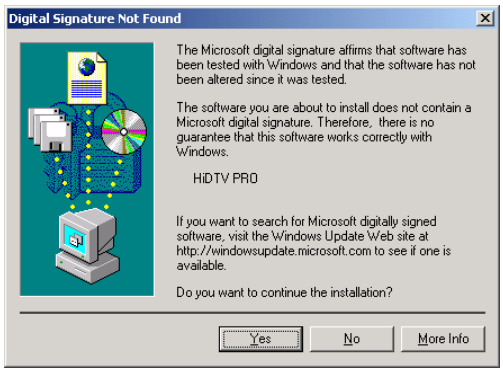
4. Select the **folder in which driver files are located**. Click '**OK**'.



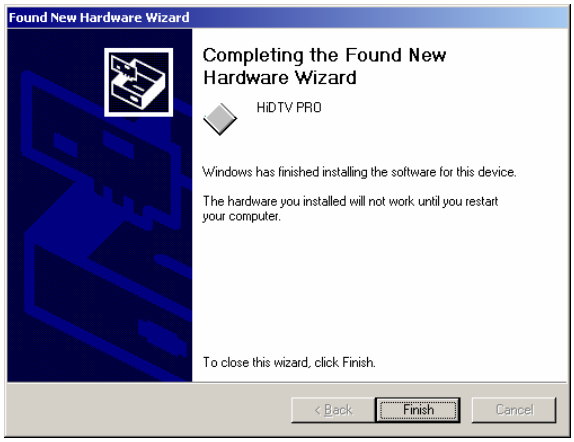
5. Click '**Next**'.


Found New Hardware Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
Multimedia Controller
Windows found a driver for this device. To install the driver Windows found, click Next.
d:\driver\win2000\hidtv.inf
< Back
Next >
Cancel

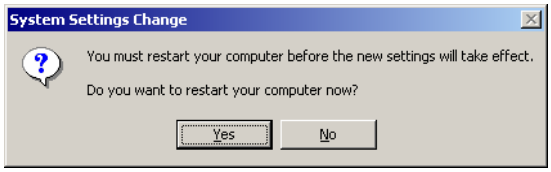
6. Click '**Yes**'


Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
HiDTV PRO
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

7. Click '**Finish**'.


Found New Hardware Wizard
Completing the Found New Hardware Wizard
HiDTV PRO
Windows has finished installing the software for this device.
The hardware you installed will not work until you restart your computer.
To close this wizard, click Finish.
< Back
Finish
Cancel

8. Driver installation is completed. Reboot the system.


System Settings Change
You must restart your computer before the new settings will take effect.
Do you want to restart your computer now?
Yes
No

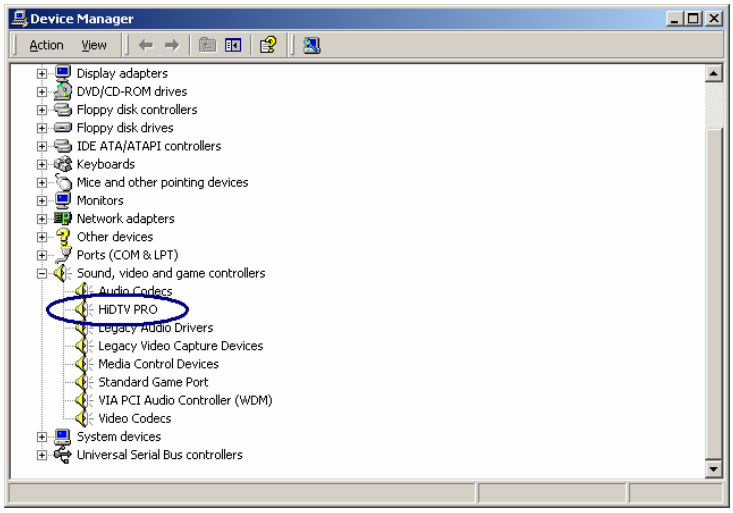
Confirm HiDTV PRO Driver Installation

You can confirm the results of the installation process in the system device manager's list. You should see the HiDTV PRO device listed in the **Sound, video and game controllers'** category.

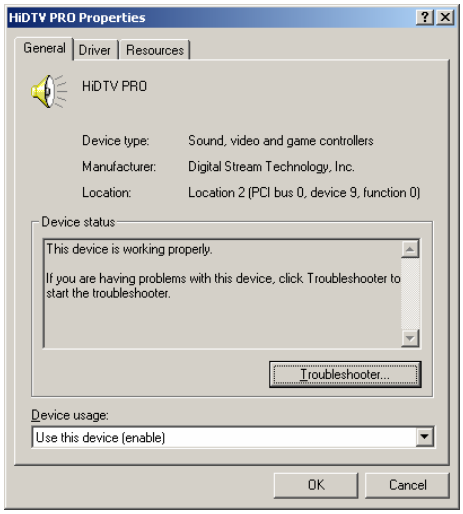
To find the device manager, follow these steps:

Click on the Start button → Settings → Control Panel → System icon → Hardware tab

click → Device manager button.



Select HiDTV PRO driver and click on right mouse button and select the Properties menu. Select the **"General"** tab and confirm that device status is **"This device is working properly".** If the device is not listed or a yellow exclamation mark appears", install HiDTV PRO driver again.



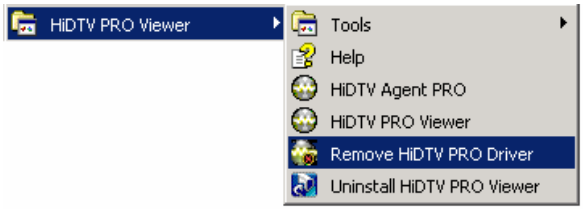
Un-installation / Update HiDTV PRO driver

If you want to install or update to a newer version of the HiDTV PRO driver, refer for

driver update following section.

PRODrvDelEng.exe is the uninstall utility of HiDTV PRO

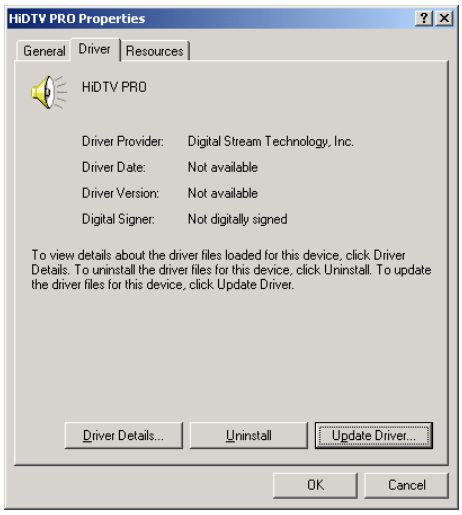
With PRODrvDelEng.exe you can remove safely the HiDTV PRO driver. It is designed to uninstall any Windows 98SE, Windows ME, Windows 2000 or Windows XP driver installation. Double-Click "**Remove HiDTV PRO Driver**" icon in "HiDTV PRO Viewer" program group to run PRODrvDelEng.exe.



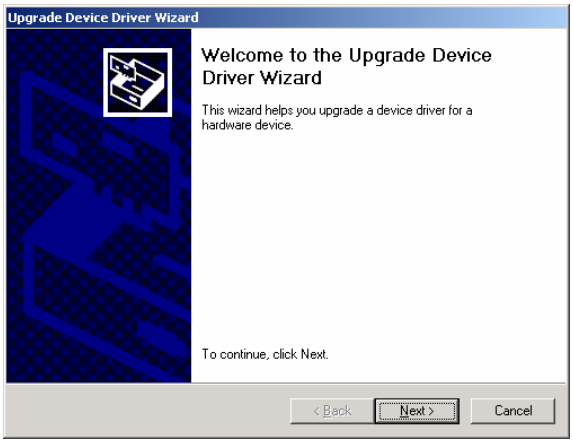
Run PRODrvDelEng.exe removes the HiDTV PRO driver. If you want to reinstall later on the HiDTV PRO driver, you must restart your computer first. After you successfully rebooted the computer, Windows will detect the card automatically. Please refer to the driver installation section on how to reinstall or install a new HiDTV PRO driver.

If the PRODrvDelEng.exe does not exist

1. Select **Control Panel** -> **System** -> **Device Manager**
2. In "**Sound, video and game controllers" category**, select '**HiDTV PRO'** and click on the '**Remove**' button.
3. Please select the '**Driver**' tab in HiDTV PRO Properties dialog, where you can see '**Driver File Details**' and '**Update Driver**' buttons. Click on '**Driver File Details**' button to verify the driver version information. Click on '**Update Driver**' button to update driver.

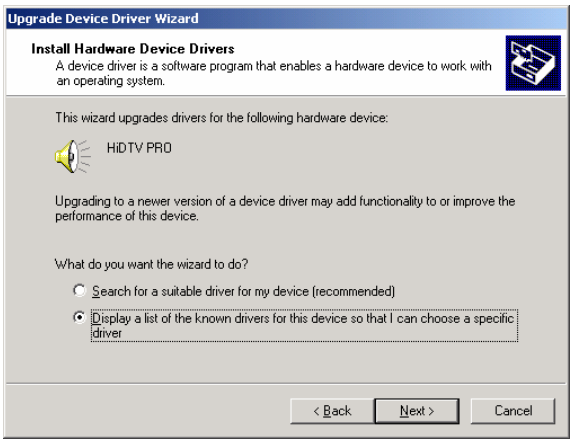


1. Click '**Next**'.

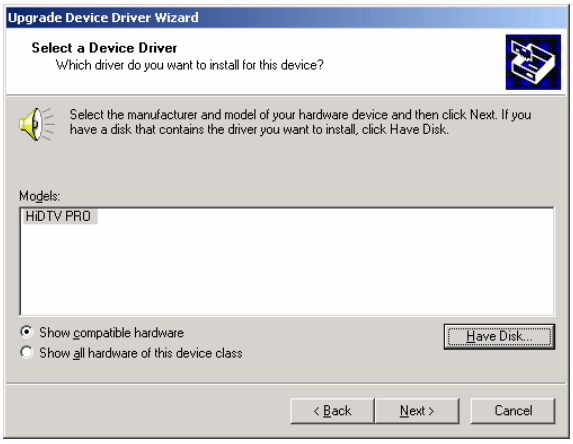

Upgrade Device Driver Wizard
Welcome to the Upgrade Device Driver Wizard
This wizard helps you upgrade a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

2. Select **Display a list of the known drivers for this device so that Windows can choose a specific driver**, click on **"Next"**.

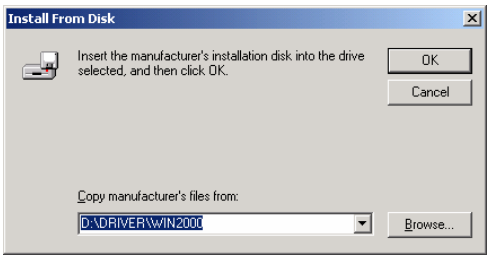
   Attention: You have to select 'Display a list of the known drivers for this device so that Windows can choose a specific driver' this it's different from the driver installation. If you select 'Search for a suitable driver for my device' the update of the driver would not be completed successfully.


Upgrade Device Driver Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard upgrades drivers for the following hardware device:
HiDTV PRO
Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

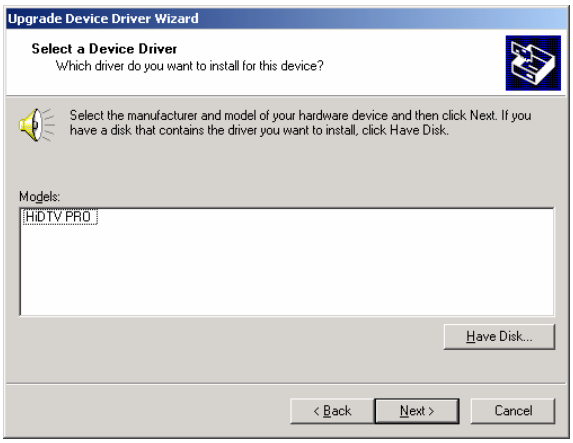
3. Click **Have Disk:**


Upgrade Device Driver Wizard
Select a Device Driver
Which driver do you want to install for this device?
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Models:
HiDTV PRO
Show compatible hardware
Show all hardware of this device class
Have Disk...
< Back
Next >
Cancel

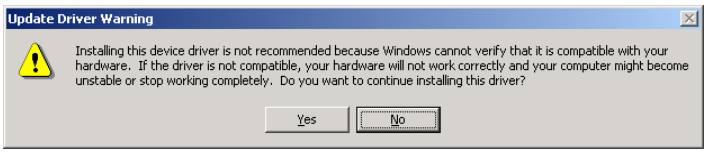
4. Select the **folder in which driver files are**. Click **OK:**



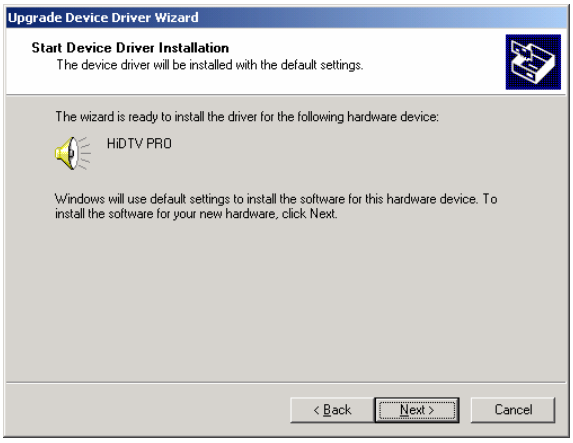
5. Click **Next:**


Upgrade Device Driver Wizard
Select a Device Driver
Which driver do you want to install for this device?
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Models:
HiDTV PRO
Have Disk...
< Back
Next >
Cancel

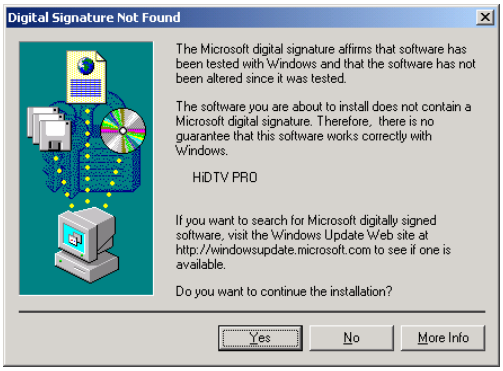
6. Click **Yes:**


Update Driver Warning
Installing this device driver is not recommended because Windows cannot verify that it is compatible with your hardware. If the driver is not compatible, your hardware will not work correctly and your computer might become unstable or stop working completely. Do you want to continue installing this driver?
Yes
No

7. Click **Next:**


Upgrade Device Driver Wizard
Start Device Driver Installation
The device driver will be installed with the default settings.
The wizard is ready to install the driver for the following hardware device:
HiDTV PRO
Windows will use default settings to install the software for this hardware device. To install the software for your new hardware, click Next.
< Back
Next >
Cancel

8. Click **Yes:**


Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
HiDTV PRO
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

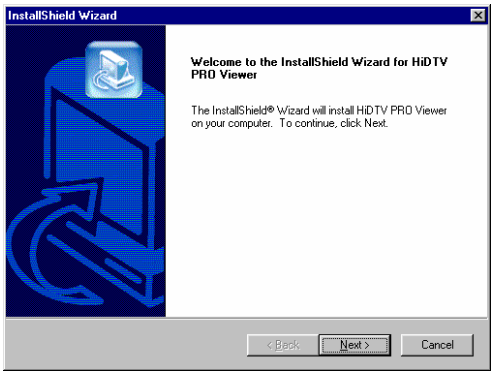
9. Click **Finish:**

Driver update is completed. Restart system.

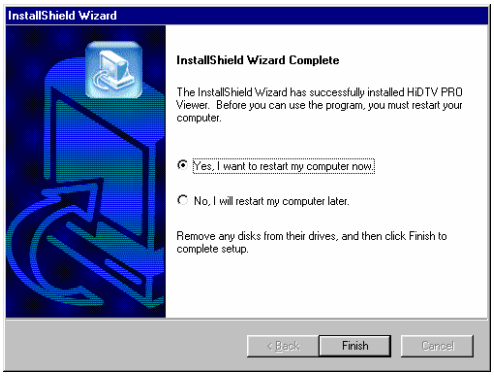
III-3. Installation of HiDTV PRO Viewer application

(Windows 98SE, ME, 2000, XP)

Run setup.exe in the HiDTV PRO installation CD-ROM.


InstallShield Wizard
Welcome to the InstallShield Wizard for HiDTV PRO Viewer
The InstallShield® Wizard will install HiDTV PRO Viewer on your computer. To continue, click Next.
< Back
Next >
Cancel

Install the HiDTV PRO Viewer application following the InstallShield wizard.

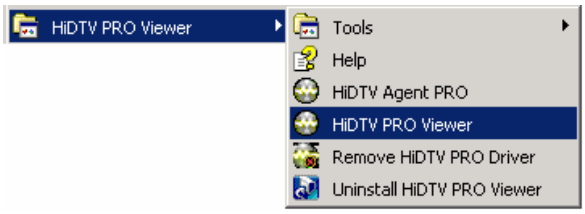

InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed HiDTV PRO Viewer. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

Installation of HiDTV PRO Viewer is completed. Reboot the computer.

When your system starts, the HiDTV Agent PRO runs automatically.

After installing the HiDTV PRO Viewer, double-click the icon on the desktop or select Start> Programs> HiDTV PRO Viewer

Icon on desktop



Start->Programs->HiDTV PRO Viewer

III-4. Un-installation of HiDTV PRO Viewer

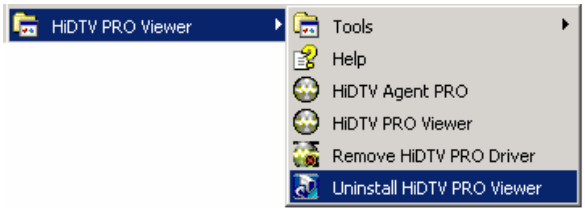
If the HiDTV PRO Viewer has some problems or you want to update the HiDTV PRO Viewer, use the following section for un-installation instruction of the HiDTV PRO Viewer. There are two options on how to uninstall the HiDTV PRO Viewer.

Option 1:

1. Exit HiDTV PRO Viewer if it is working.
2. Run **Start** -> **Setting** -> **Control Panel**.
3. Run **Add/Remove Programs** in the **Control Panel**.
4. Select **HiDTV PRO Viewer** in **Add/Remove Programs dialog box** and then click **Add/Remove**.
5. If the un-installation window of HiDTV PRO Viewer appears, click "**Next**". Un-installation process begins.
6. After successful un-installation, Windows will ask you to reboot system.

Option 2:

1. Select **Start** -> **Programs** -> **HiDTV PRO Viewer** -> **Uninstall HiDTV PRO Viewer**.



2. After the un-installation window of HiDTV PRO Viewer appears, click "**Next**". Un-installation process begins.
3. After successful un-installation, Windows will ask you to reboot the system.

IV. Using HiDTV PRO 2.0

IV-1.Before Using HiDTV PRO 2.0

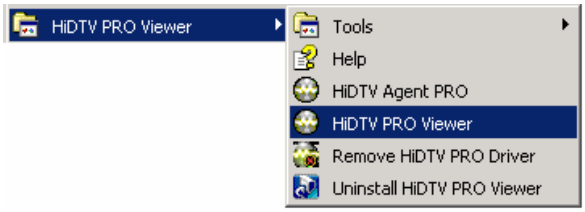
Enabling the DMA Function of the hard drive

Disabling System Standby

Executing HiDTV PRO 2.0

Double-click the icon on the desktop or select Start> Programs> HiDTV PRO Viewer

Icon on desktop



Start->Programs->HiDTV PRO Viewer

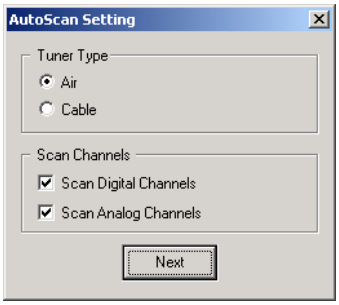
Auto Scan

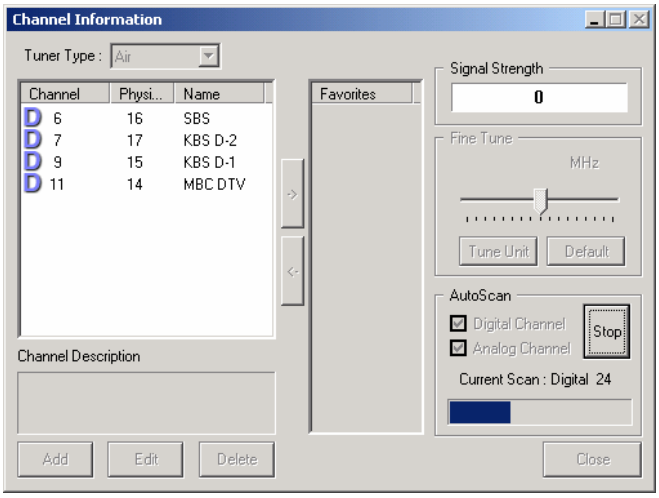
When executing the program for the first time, you will see the following window:

Comment: "다음과 같은 창이 뜬다" ➔ "다음과 같은 창이 표시된다"

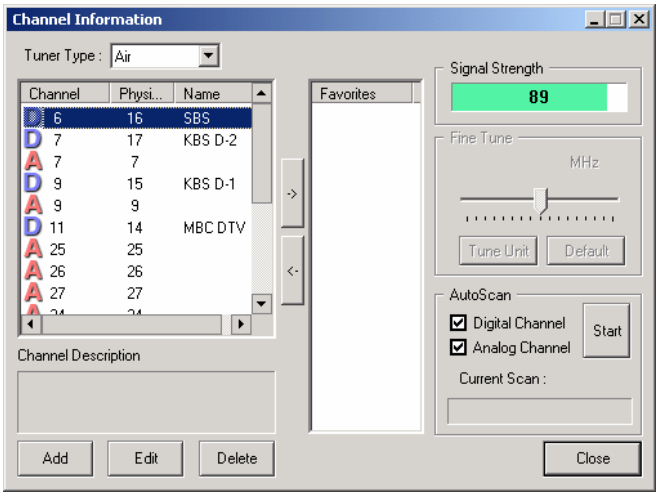
If you do not want to watch TV, Click "No"

Click "Yes" to show the AutoScan Setting Dialog box. If you don't use an Over-The-Air (OTA) antenna (channels 2~69), you can change the type of antenna by choosing "Tuner type". If your HiDTV PRO card is connected to Cable TV (channels 1~125), change the "Tuner type" to Cable. Select channel type to scan. Then click the "Next" button to show Channel Info Dialog box and execute AutoScan.





Click "Stop" to interrupt the AutoScan.



When AutoScan is completed, the list will show the detected channels.

A “Blue D” represents a Digital TV channel and a “ Red A” represents an Analog TV channel.

You will be able to directly watch the channel, by double-clicking it from the list.

The Ch. list will be automatically saved when closing the Channel dialog box.

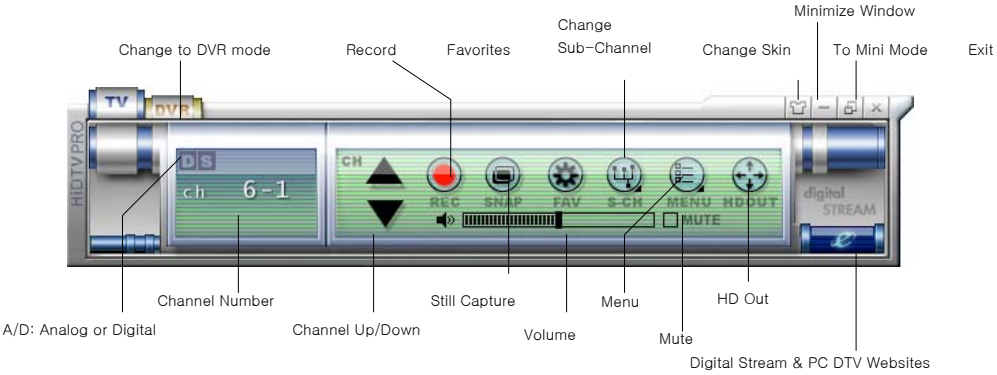
IV-2. Main Window Description

The Main Window is composed of the Render Window and a Control Window.

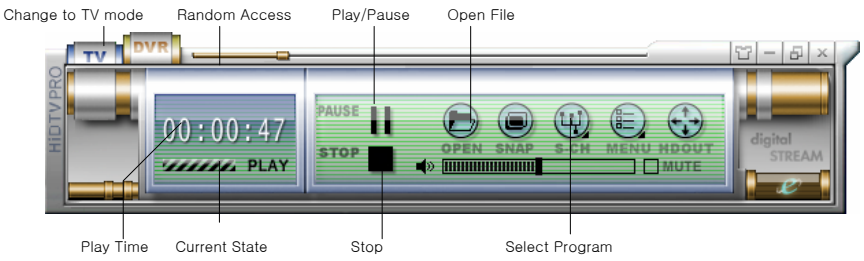
The Control Window takes care of the TV mode to watch TV and DVR mode to play files.

Render Window

Control Window – TV mode



Control Window – DVR mode



Comment: 그림중, "Muto 상태" ➔ Mute ::: 채널업 , 채널다운 은 "이전채널" "다음채널" 은 어떨지...

Render Window

Button Function

Minimize	Minimize Desktop Window
Maximize	Maximize Desktop Window
Exit	Exit HiDTV PRO Viewer

Control Window - TV mode

Button Function

DVR	Change to DVR (Digital Video Recording) mode
Channel Down	Down Channel number
Channel Up	Up Channel number
Record	Records Digital or Analog TV (Refer to **Record** section)
Still Capture	Captures still image of currently displayed Video picture
Favorites	Change to Favorites channel (Refer **Favorites** section)
Menu	Display Menu (Refer **Menu** section)
Change Sub-Channel	Change Sub-Channel. (Refer **Change Sub-Channel** section)
HD OUT	Display Video through HD OUT port
Volume	Volume Control
Mute	Mute On/Off
Change Skin	Display Change Skin Dialog box. (Refer to **Skin** section)
Minimize	Minimize Desktop Control Window
Mini-mode	Toggles Control Window to mini-mode/normal-mode.
Exit	Exit HiDTV PRO Viewer
Website	Access to Website of Digital STREAM or PC DTV TECH.

Status Window

A/D	TV type of current channel "A" means analog TV, "D" means Digital TV.
Current Channel	Displays current channel number (Main – Sub Ch.)
S	Indicates that Current Main Channel has sub-channel(s)
REC	Digital Video recording in progress

Control Window - DVR mode

Button Function

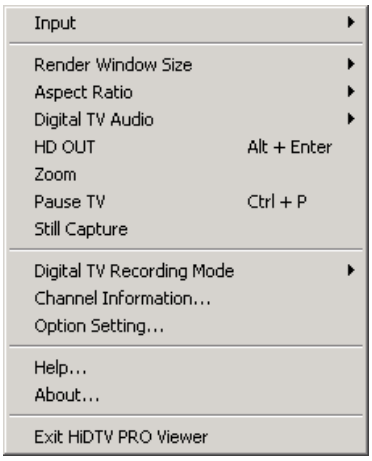
TV	Change to TV mode
Random Access	Display the playing position and jump to a certain position
Play/Pause	Play/Pause File. (Refer **File Play** section)
Stop	Stop playing file
Open File	Open file to play.
Still Capture	Capture still image of current displaying video.
Select Program	Select from several programs to choose from when a MPEG-2 Transport Stream file contains sub channel recordings.

Status Window

Play Time	Displays the current Play Time.
Multi-Program	Indicate multi-program Transport Stream.
Current State	Displays the current state of the HiDTV PRO Viewer (Play/Pause/Stop).

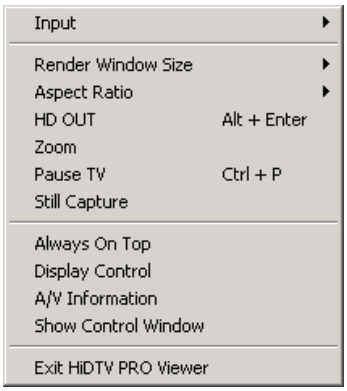
IV-3. Menu Description

When you click the "MENU" button in TV mode, a menu appears:

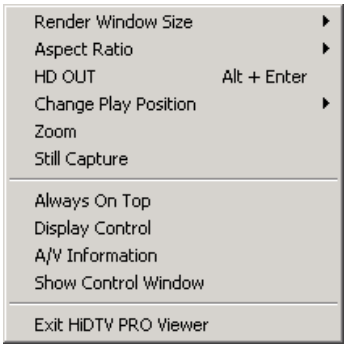


When you click the "MENU" button in DVR mode, a menu appears:

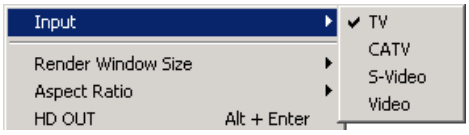
When you click on the right mouse button on the Render Window in TV mode, a menu appears:



When you click on the right mouse button on the Render Window in DVR mode, a menu appears:



Change Input Mode



TV : Over-The-Air TV (UHF/VHF Channels 2~69)

CATV : Cable TV (channel 1~125).

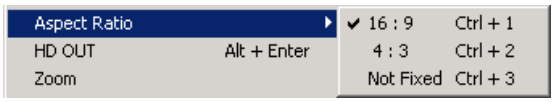
S-Video : External S-Video input

Video : External Video input

Change Render Window Size

Changes size of the Render Window to Minimum size, Normal size, size to Fit to Screen or Full screen.

Change Aspect Ratio



Changes Aspect Ratio of picture shown in Render Window.

Switch to HD OUT Display

Displays picture through the HD OUT port.

Zoom a part of Render Window

When you select the Zoom menu, with the mouse cursor you can change the shape and size of the Render Window. How to select zoom area in Render Window: Press the left mouse button to set the Top Left position, drag the mouse to select the zoom area and release the mouse button with the right-bottom. This will zoom in the selected area of the video. If you want to go back to normal position, please the select Zoom menu again.

Freeze LIVE TV picture

You can Freeze LIVE TV picture. While the live picture is paused, you still will be able to listen to the LIVE audio.

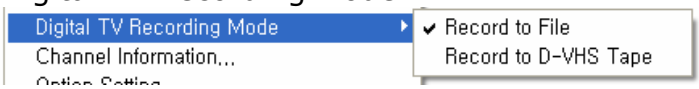
Still Capture

Display Still Capture Dialog box. (Refer to the **Still Capture** section)

Play Mode

You can play a File (MPEG-2 Transport Stream, Analog Recording, MPEG-2 VOB) or D-VHS Tape (Windows XP only) in DVR mode.

Digital TV Recording Mode



You can record a Digital TV program to a MPEG-2 Transport Stream File or D-VHS Tape (Windows XP only).

Channel Information

Display Channel Info Dialog box. (Refer to the **Channel Information** section)

Option

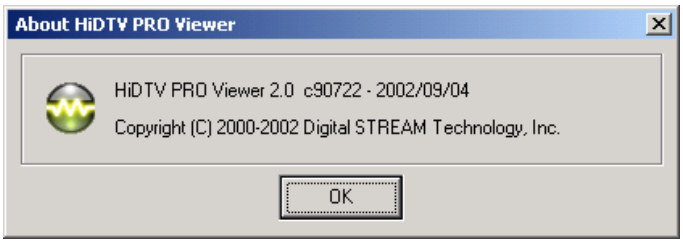
Display Option Setting Dialog box. (Refer to the **Option Setting** section)

Help

Display Online Help.

About

Shows the "About HiDTV PRO Viewer" dialog box with PRO Viewer version and date info..



Exit HiDTV PRO Viewer

Exit HiDTV PRO Viewer.

Multi Language Support

Select Analog TV Audio

You can select the language in a bilingual analog TV program.

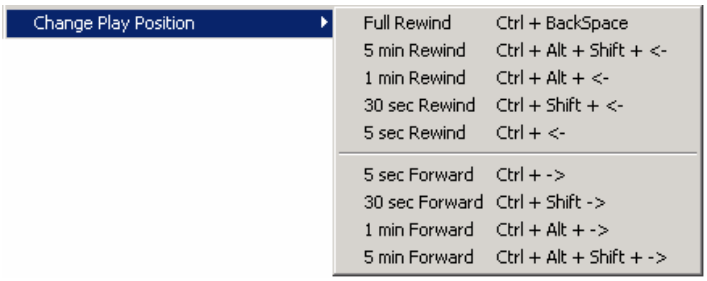
Select Digital TV Audio

If a Digital TV program has multiple language audio sub-channels, you can select your preferred language.

Select Digital TV File Audio

Select a preferred language track when playing a file from a recorded Digital TV program or a MPEG-2 VOB file that contains multiple language tracks.

Change Play Position


Change Play Position
Full Rewind Ctrl + BackSpace
5 min Rewind Ctrl + Alt + Shift + <-
1 min Rewind Ctrl + Alt + <-
30 sec Rewind Ctrl + Shift + <-
5 sec Rewind Ctrl + <-
5 sec Forward Ctrl + ->
30 sec Forward Ctrl + Shift ->
1 min Forward Ctrl + Alt + ->
5 min Forward Ctrl + Alt + Shift + ->

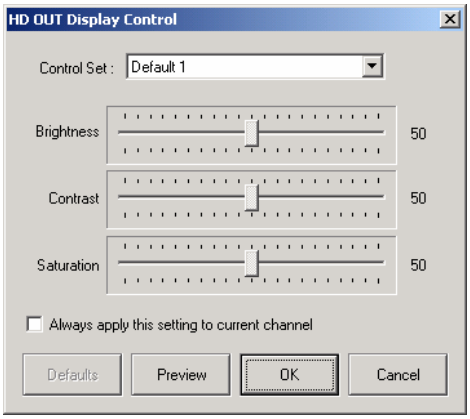
Jump to a certain position in File Play in DVR mode.

Always on Top

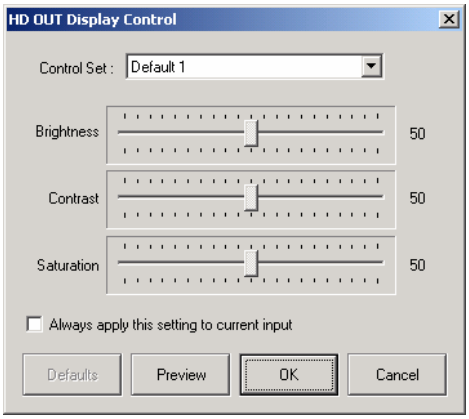
Render Window always displays as top window

HD OUT Display Control

HD OUT Display Control dialog box.

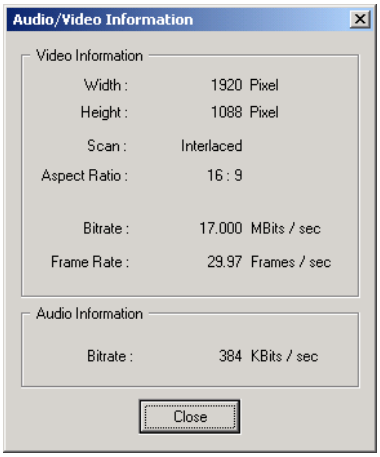


You can change the Brightness, Contrast, and Saturation for the picture of the HD OUT port. The HiDTV PRO Viewer offers 5 presets and 10 settings that the user can define. Click on the Preview button to check your setting. You can apply a Display Control setting to a channel or external inputs by checking "**Always apply this setting to current channel/ current input**".



A/V Information

Displays Audio/Video information.

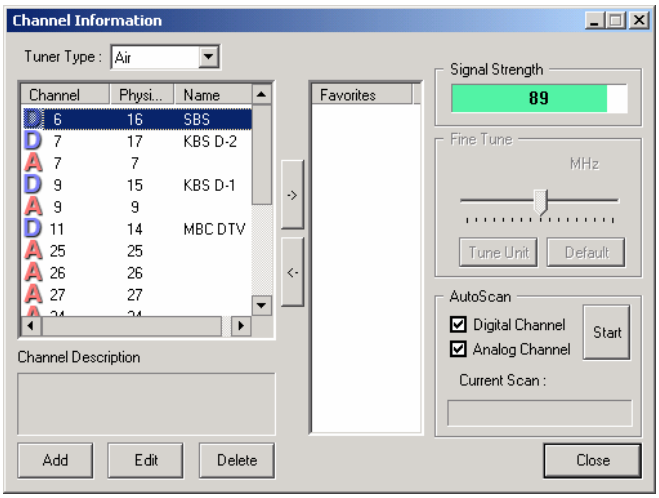


Show Control Window

Shows Control Window.

IV-4. Channel Information

Select the Channel menu to show Channel Information dialog box.



Change Tuner type

Select the Tuner type between Air TV (Over-The-Air) and Cable TV.

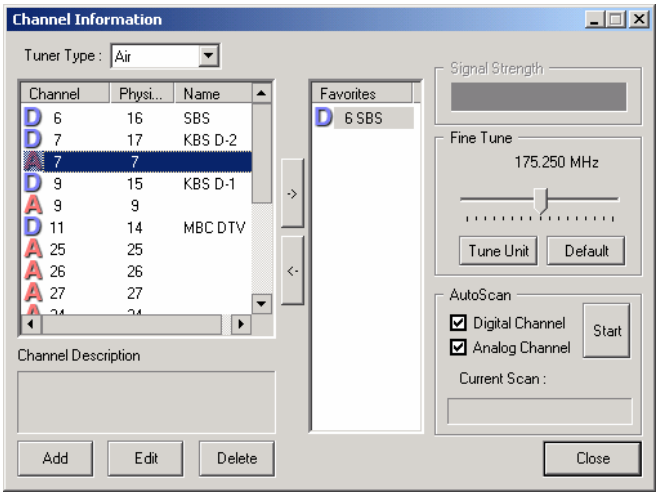
Monitoring of Signal Strength

It indicates the signal strength of Digital TV channel. In general, you can watch Digital TV when the signal strength is 60 or above.

Auto Scan(Tuning)

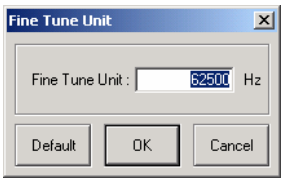
Scan channels by clicking on the Start button. You can both scan Analog or Digital Channels.

Fine Tuning (Analog)



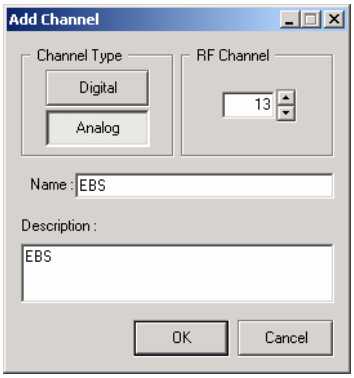
To tune the frequency of an analog channel for better picture quality: Change the slider bar to adjust the frequency. The results can be saved for future use.

When you click on the "Setting" button, the "Fine Tune Setting" dialog box will appear. You will be able change the Fine Tune Unit frequency in this dialog box.



Add Channel

Click on the Add button to add more channels.



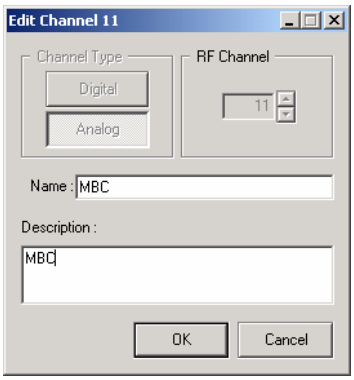
Select the TV tuner type (Analog or Digital) and select the channel number using the scroll

bar.

If you choose analog type TV Ch. you can add manually channel names and descriptions. If you choose digital type TV Ch., there is no need to manually add channel names and descriptions. The software will detect the Channel Information automatically.

Edit Channel

Select a channel and click "Edit" to modify the channel name and description.



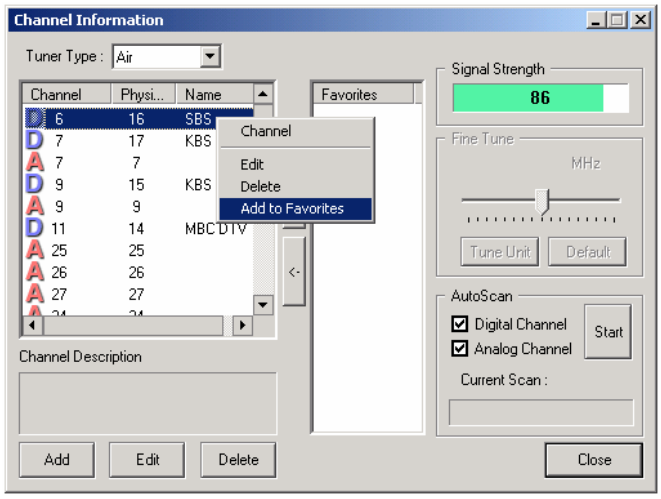
Delete Channel

Select a channel and click on "Delete" to remove the channel from the station list. Pressing the keyboard "Delete" button accomplishes the same.

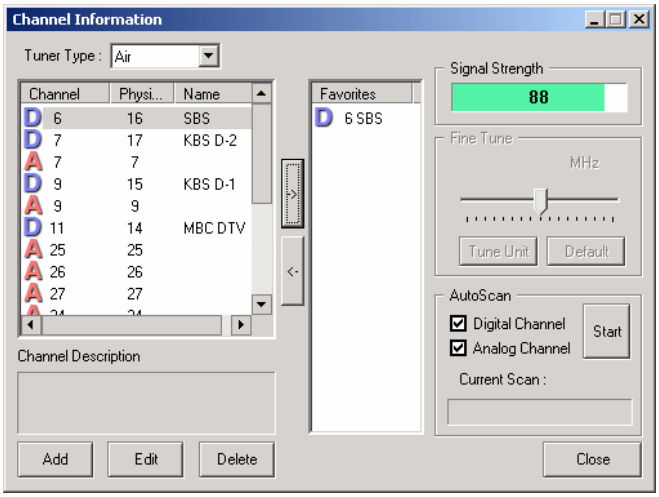
Add Channel to Favorites

You can add channels to your Favorites list.

Select from a channel displayed on the left side of the list, click on '->' button to add the channel to favorites. Or right click mouse button on the channel and the Channel Menu will appear. Select **Add to Favorites** to add the channel to Favorites. You can edit the channel information or delete a channel in Channel Menu.

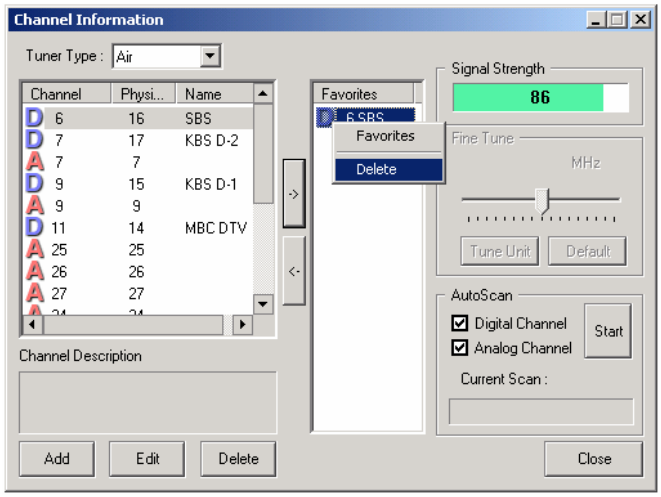


Favorite channels are displayed in the Favorites list.



Double-Click on a channel in the Favorites list to change it.

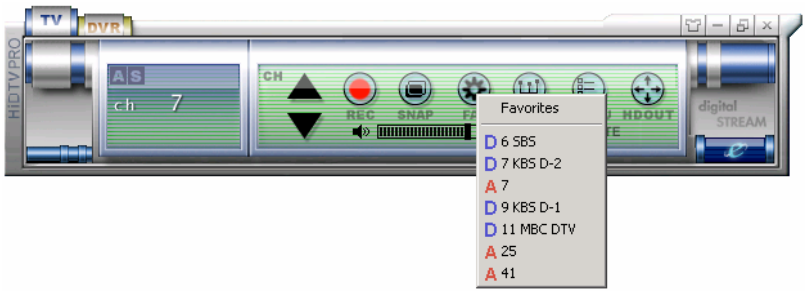
Delete Favorites



Select a channel to delete from the Favorites list, click on '<-' button to delete the channel from Favorites list. Or with a right-button mouse click on a channel, a menu appears in the Favorites list. Highlight '**Delete**' and left click with the mouse to remove the channel from Favorites list.

Using Favorites

Click on the '**Favorites**' button in the Control Window to display the list. You can change the channel by selecting from a different one displayed in that list.



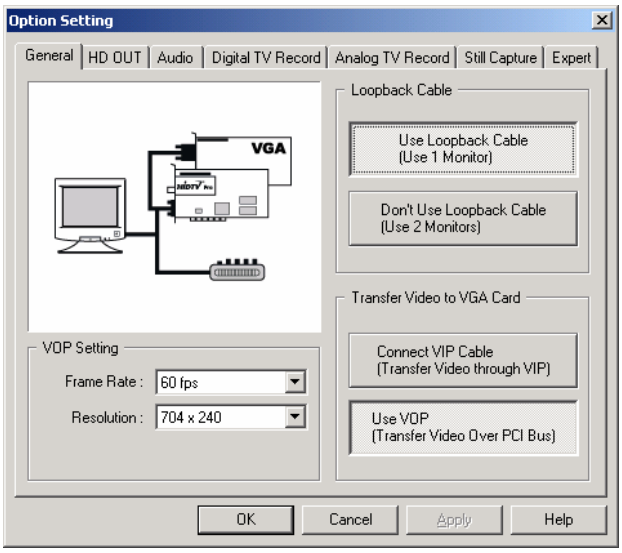
How to Change the Sub-Channel

With Digital TV it is possible that a single TV frequency can carry multiple Standard Definition (SD: 480i) programs. In order to distinguish from several possible SD programs from each other, the sub-channel number has been introduced with Digital TV. It is represented as Major-Minor number, for example Ch. 9-1, 9-2 or 9-3 instead of just Ch.9. Broadcasting station can determine the amount of Sub-channel numbers (usually anywhere between none and four). More than four sub-channels are possible, but the SD picture quality would be deteriorating if five or more Standard Definition sub-channels would be squeezed into a single Digital Ch. Frequency. Click on the 'Change Sub-Channel' button in the Control Window to show the Sub-Channel Menu. This menu displays the list of Sub-Channels that have the same Main Ch. number. In the following picture the Sub-Channel Menu shows a list of Sub-Channels with the same Main number 9. Select a Sub-Channel to change to a different one.

IV-5. Options Setting

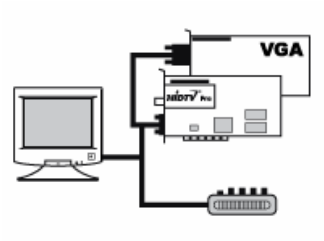
Click on 'Options' menu to show the Option Setting dialog box.

General Options

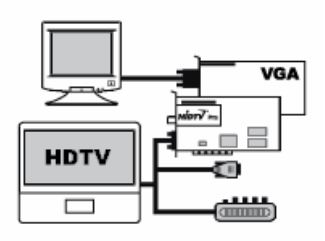


Monitor connection

If you have a VGA (Video) card connected to the VGA input from the A/V extension cable of the HiDTV PRO, please select the "Connect Loop back cable". If you didn't connect a VGA (Video) card to the VGA (Video) input from A/V extension cable of HiDTV PRO, select "Do not connect Loop back cable".



1 Monitor configuration

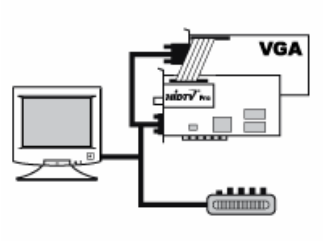


2 Monitors configuration

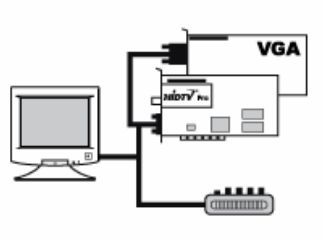
Video Transfer

If you connected the HiDTV PRO card and a Video (VGA) card with the VIP cable, select "USE VIP". If you can't see a correct picture in the Overlay (Render) Window or you didn't connected the HiDTV PRO card and Video (VGA) card with VIP cable, select "Use VOP". You

may see some glitches when using VOP mode depending on your PC system configuration.



Use VIP (**V**ideo **I**nterface **P**rotocol)



Use VOP (**V**ideo **O**ver **P**ci bus)

VOP Setting

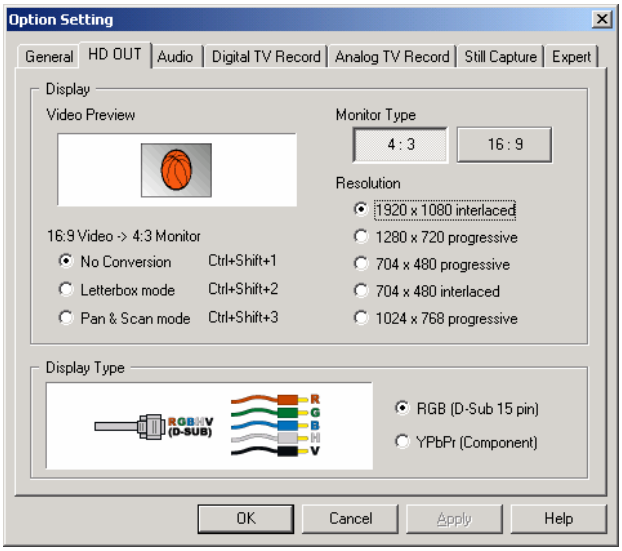
Resolution

You can change the resolution of a VOP video to 352 x 240 or 704 x 240.

Frame Rate

You can adjust the number of frames per second (fps) in the Overlay (Render) Window when the video transfer is in VOP mode. The default value is 60 frames/sec. If your system is too slow (bus transfer rate and/or CPU speed) to display 60 frames/sec, please select 30 frames/sec.

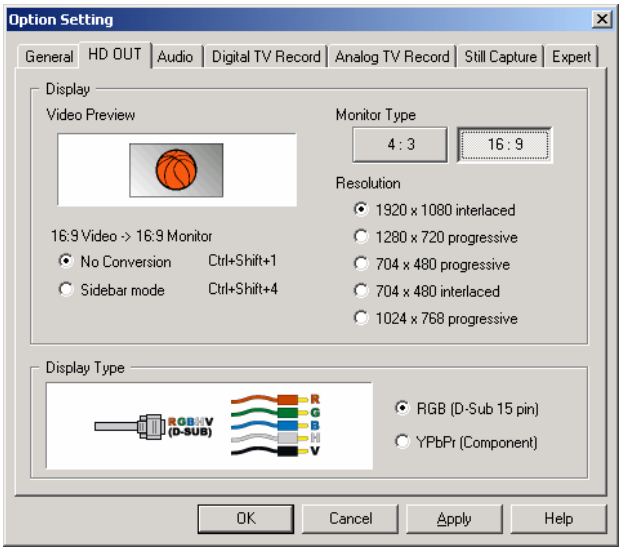
HD OUT



Monitor Type

Select the aspect ratio of a monitor that is connected to an HD output from the A/V extension cable of the HiDTV PRO.

If you select '4:3', you will see the windows displayed above. If you select '16:9', you will see the following window:



Resolution

Choose the Resolution of HD out.

Change 16:9 Aspect Ratio (AR) Video to 4:3 AR on a 4:3 Monitor

1080i and 720p HDTV programs usually have aspect ratios of 16:9. If you want to display a picture with an aspect ratio of 16:9 on a monitor with an aspect ratio of 4:3 without distorting the picture, you need to change the display output to Letterbox- or Pan & Scan mode.

No Conversion

No picture conversion.

Letterbox mode

Down-samples a picture with a 16:9 aspect ratio to fit a 4:3 Monitor. It will result in that two horizontal black bars on the top and at the bottom of the video are being visible.

Pan & Scan mode

Crops the left and right sides of pictures with a 16:9 aspect ratio to fit into a 4:3 Monitor.

16:9 Aspect Ratio Video -> 16:9 Monitor

No Conversion

No picture conversion necessary.

Sidebar mode

Horizontal squeezes a picture with 16:9 aspect ratio on the top and bottom side each to fit the 4:3 center area of a 16:9 Monitor. It will have two vertical black bars on the top and at the bottom of the video.

Ref.1 > Examples of various display modes (16:9 AR* Video-> 4:3 Monitor)

16:9 AR picture on 4:3 monitor. Picture is distorted	16:9 AR picture on 4:3 monitor in Letterbox mode	16:9 AR picture on 4:3 monitor in Pan & Scan mode	4:3 picture on 4:3 monitor

Ref.2 > Examples of various display modes (16:9 AR* Video-> 16:9 Monitor)

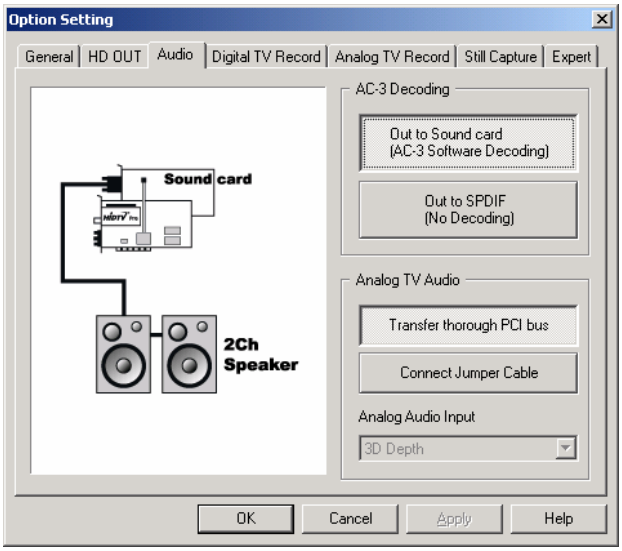
16:9 AR picture on 16:9 monitor (No distortion)	16:9 AR picture on 16:9 monitor in Sidebar mode	4:3 AR picture on 16:9 monitor

* AR = Aspect Ratio

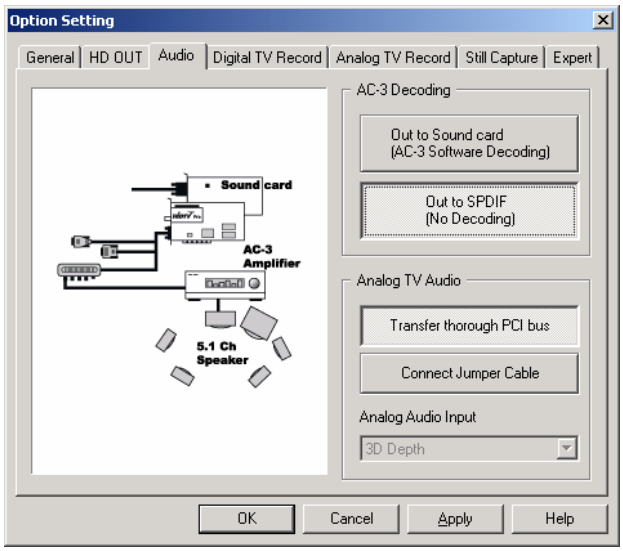
HD OUT Interface Type

Select color scheme of HD out port. If you choose YPbPr scheme, you can use the component cable to connect the HiDTV PRO card with an HDTV Monitor or Projector.

Audio

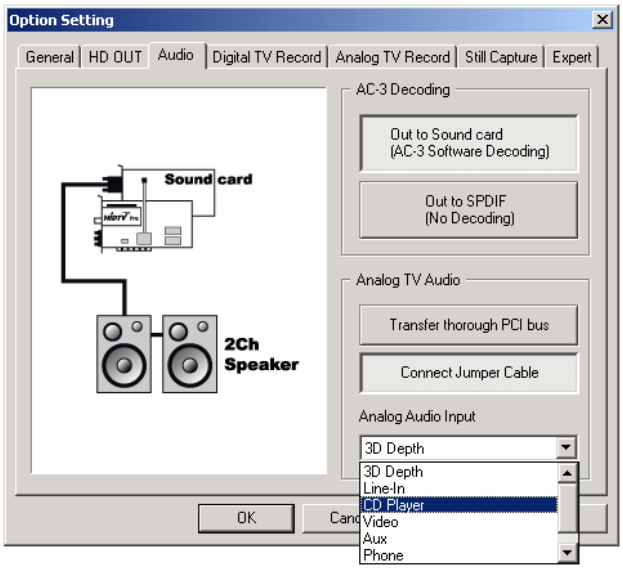


AC-3 Audio Output



You can select to use AC-3 digital audio through S/PDIF output with the A/V extension cable of HiDTV PRO to decode the digital audio using an external AC-3 decoder. If you do not have an external AC-3 decoder, please select "Out to (PC) Sound Card". With that option enabled you will be able to experience two channel software decoded AC-3 audio from your sound card.

Analog TV audio

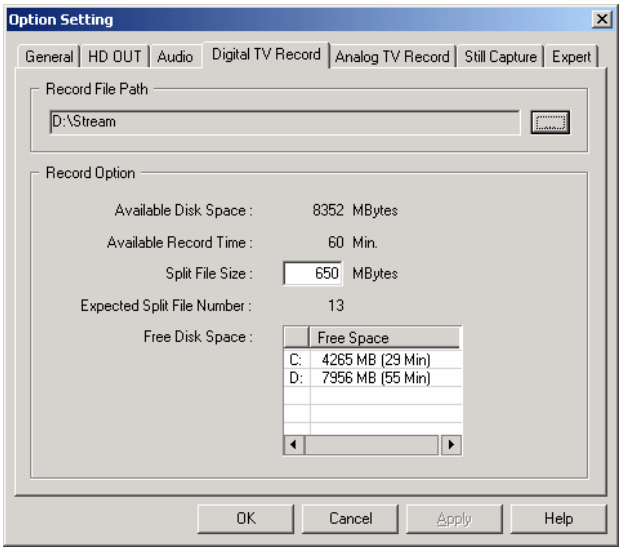


There are two ways of experiencing from audio of Analog TV. The HiDTV PRO can either transfer the digital audio data of Analog TV through the computers PCI bus to the sound card, or connect the analog TV audio output of the HiDTV PRO with an analog input of the sound card (some PC motherboards have on-board audio hardware enabled, please refer to the motherboard user guide on where to find the audio connector). If you select **Transfer through PCI** you don't have to connect an audio cable between the HiDTV PRO card and a sound card. But if your systems performance is not fast enough (motherboard bus speed and/ or CPU speed), you might not be able to experience a clear audio sound (Audio studder and dropout are some symtoms).

Important Note: Make sure DMA is **enabled** for all the hardware devices that have an option for that listed in the Device Manager and that there aren't any IRQ or other conflicts listed.

If you select **Connect to Sound card** the **Select Audio Input** will be enabled. This will display a list of analog inputs for the sound card. If analog input is selected, you want to connect the analog volume output of the HiDTV PRO card to your sound card.

Digital TV Record



Record File Path

Select or create a folder to store recording files.

Dividing File Size

Sets the dividing file size for recording digital TV to harddisk. Windows 98SE and ME only supports a maximum single file size of 4GB, which would limit the recorded file size to only 30 minutes long. **But HiDTV PRO Viewer supports** a file format that can record a single program to several files. The list file format extension name is .tls and each recorded file extension name is .tp

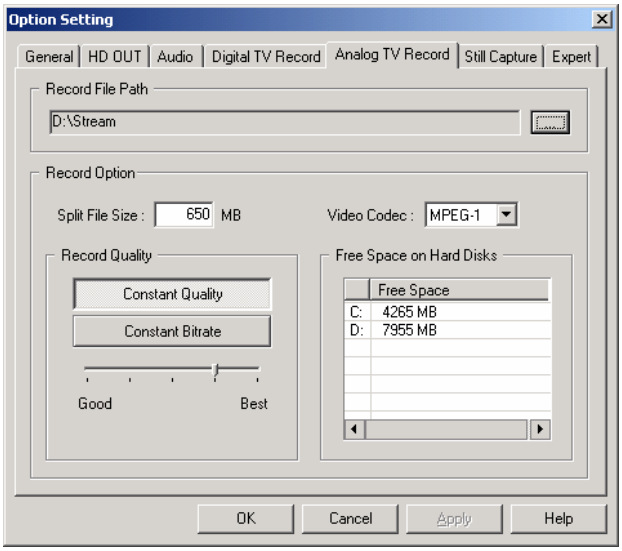
For example:

- testfile.tls has list of .tp files which have name format testfile_index.tp
- size of each recorded .tp file below 4GB
- HiDTV PRO Viewer created multiple .tp files in addition when the recording size is over 4GB

When selecting the recording file path, the HiDTV PRO Viewer displays the available free space and available recording time of the selected harddisk partition.

When you choose a dividing file size, the HiDTV PRO Viewer will show the available file number of the selected harddisk partition. You can choose a dividing file size from 100MB to 3990MB.

Analog TV Recording



Selecting File Path

Select or create a folder to store recording files.

Recording Option

Dividing File Size

Sets the dividing file size for recording digital TV to harddisk. Windows 98SE and ME only supports a maximum single file size of 4GB, which would limit the recorded file size to only 30 minutes long. **But HiDTV PRO Viewer supports** a file format that can record a single program to several files. The list file format extension name is .mls (**m**p **l**ist **f**ile) and each recorded file extension name is .mp (**mp**eg stream file)

For example:

- testfile.mls has list of .mp files which have name format testfile_index.mp
- size of each recorded .mp file below 4GB
- HiDTV PRO Viewer created multiple .mp files in addition when the recording size is over 4GB

When selecting the recording file path, the HiDTV PRO Viewer displays the available free space and available recording time of the selected harddisk partition.

When you choose a dividing file size, the HiDTV PRO Viewer will show the available file

number of the selected harddisk partition. You can choose a dividing file size from 100MB to 3990MB.

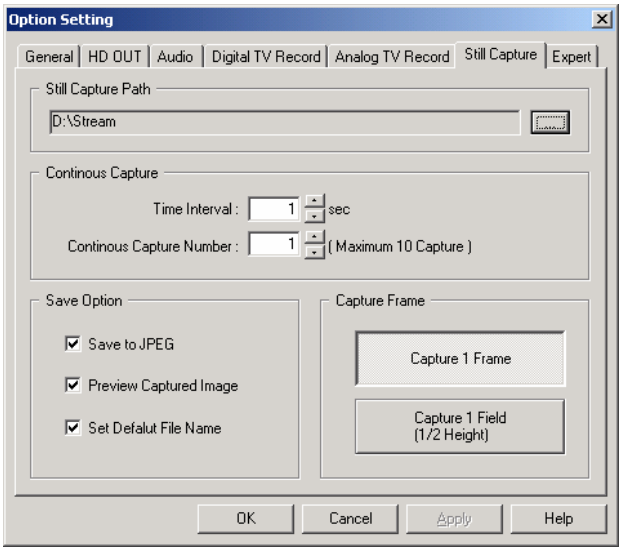
Video Codecs

Analog TV recordings can be compressed using either the MPEG-1 or MPEG-2 codec.

Recording Video Quality

Select the desired video quality of video compression using MPEG-1 or MPEG-2 codec With **Contant Quality** or **Constant Bitrate (CBR)**. When selecting **Constant Quality**, the quality level can be adjusted in 5 levels. The **Constant Bitrate** can set from 192kbps to 10Mbps.

Still Capture



Capture image saving path

Select or create a folder to save captured image.

Continuous Capture

10 still images can be taken for each capture session.

Save Captured files

Save to JPEG: If this option is checked, any captured files will be saved to JPEG format. If this option is unchecked, captured files are saved to bitmap (BMP) format.

Preview Captured File: With this option checked, a captured image can be pre-viewed in the dialog box as a still picture before saving. When this option unchecked, a click on the snap button saves the captured file immediately.

Set Default File Name: With this option checked, a default file name set will be chosen automatically to the save a captured file. Without checking this option a dialog box appears and asks for a custom file name.

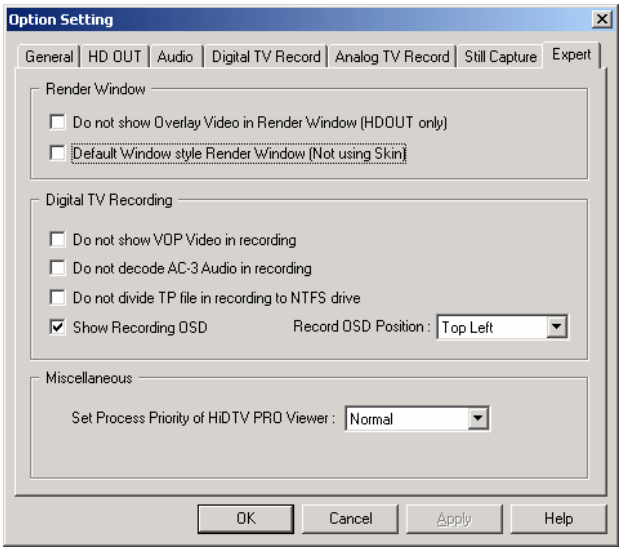
Capture Frames

Capture One Frame: Captures a full frame picture with a maximum resolution of 1920x1088.

Capture One Field (interlaced): Captures 1 field of picture at one time. In the case of 1080i HDTV, 1 frame is composed of 2 fields with a total resolution of 1920x544 for the captured image. The resolution of the captured image is 1/2 of the original video frame but

the capture speed is 2x as fast instead.

Expert

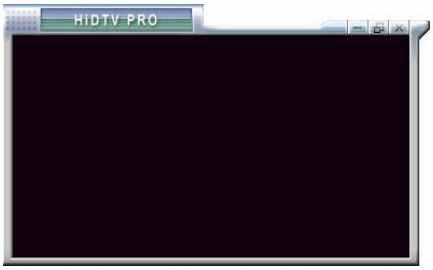


Do not show Overlay Video in Render Window (HDOUT Only)

If you don't want overlay video displayed in Render Window, check this option to improve system performance while watching TV. Watching TV through HD out is not affected and is still enabled.

Set Overlay (Render) Window Style

You can set the Overlay Window without Skin as the default style. Only the boarders will be resized. If you use the Overlay Window using Skin, you might experience some flickering when changing window size. The Overlay Window without Skin should not experience any flicker during resizing.



Overlay Window with Skin

Default Window Style (No Skin)

Do not show the VOP (pci bus based overlay window) while recording

When the video transfer method (for the overlay window) is set to VOP and simultaniously a Digital TV program is being recorded, there is a possibility that some video glitches might occur (due to older or slower bus transfer related hardware and CPU). Check this option for disabling the VOP overlay window to improve recording reliability and to eliminate or reduce any video glitches. Watching TV through HD out is not affected and is still enabled.

Do not decode AC-3 Audio while recording

When the Digital TV audio decoding method is set to Software Deciding and simultaniously a Digital TV program is being recorded, there is a possibility that some distortions might occur to recorded program (due to older or slower bus transfer related hardware and CPU). Check this option for disabling the AC-3 Software decoding to improve recording reliability. S/PDIF output of AC-3 audio is not affected and is still enabled.

Do not divide TP file in NTFS drive

In NTFS drive size of a file can be over 4GB. So you can record whole program to a .tp file.

Show Recording OSD

While a Digital TV recording is in progress, you can see Recording OSD in video. If you do not want Recording OSD, turn off this option.

Recording OSD Position

Choose Recording OSD Position.

Set Process Priority of HiDTV PRO Viewer

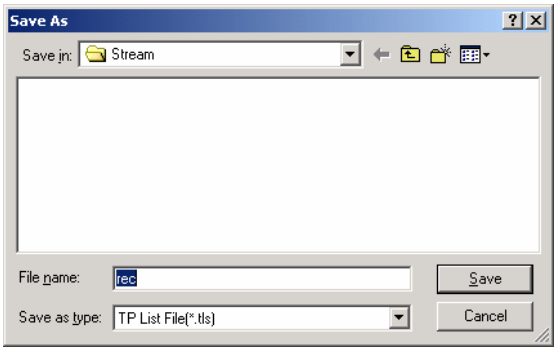
Set process priority of HiDTV PRO Viewer at high-level to improve performance and reliability of HiDTV PRO Viewer.

IV-7. Recording and Playback

You can record a MPEG-2 Transport Stream from a Digital- or Analog TV channel to the hard disk. Any recorded file can be played in DVR mode.
Digital TV is recorded in **.tp** (Transport Stream, <4GB) or **.tls** (Transport List File, >4GB) **file format**. **Analog TV** is recorded in **.mp** (MPEG) or **.mls** (MP List File) **file** format.

Recording TV

Hit the "REC" button to start recording a TV program. When clicking the "REC" button with the "Save as" option, the recording' file name and path can be manually be chosen in the appearing dialog box.



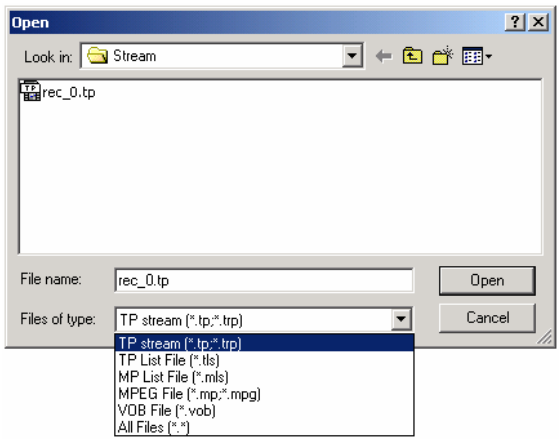
If **VOP** mode for video overlay (transfer) is being selected, some video glitches could occur depending on the PC system configuration. We recommend choosing the **VIP** mode for the video overlay while recording a digital TV file.

Analog TV recordings only work in VOP overlay mode. If your HiDTV PRO Viewer is set to **VIP** overlay mode, it will change automatically to **VOP** overlay mode when start recording, and back to **VIP** mode when a recording is stopped.

Click the "REC" button again to stop a recording while it's already in progress.

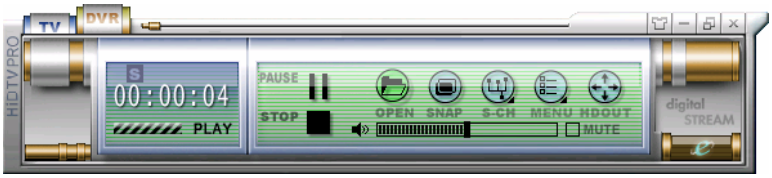
Play recorded file

You can play recorded files in DVR mode. Click on the "OPEN" button to access the recorded file.

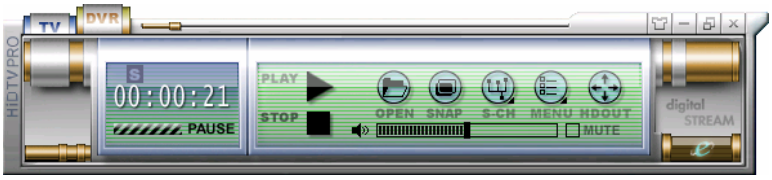


The HiDTV PRO Viewer supports playing files with extension .tls (TP List File), .tp, .trp, .mls (MP List File), .mp, .mpg and .vob.

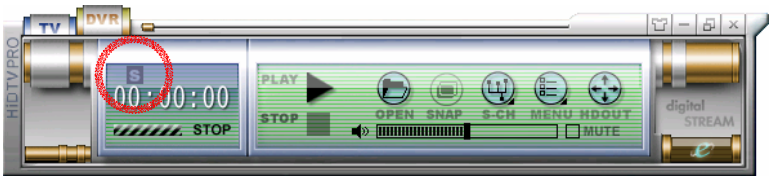
The HiDTV PRO Viewer **automatically starts playing** a **selected file** of one these file **formats** for playback: **TLS, TP, TRP, MLS, MP, MPG & VOB**.



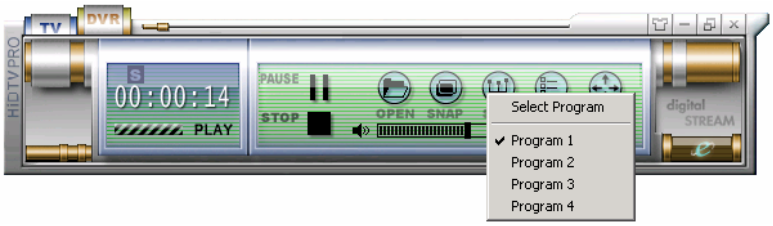
The "PLAY" button will change to "PAUSE" button when playback is in progress.
Click on "PAUSE" button to pause and again to resume playback.



Click "STOP" button to stop.



One MPEG-2 Transport Stream file can contain several separate "sub-channel" programs. The HiDTV PRO Viewer displays extra "Sub-channel" recordings with an **"S"** in the status window. The recorded sub-channels can be changed, by clicking on the "Sub-Channel" (S-CH) button. When the "Sub-Channel" button is clicked, the HiDTV PRO Viewer displays a menu listing of available programs to play from.



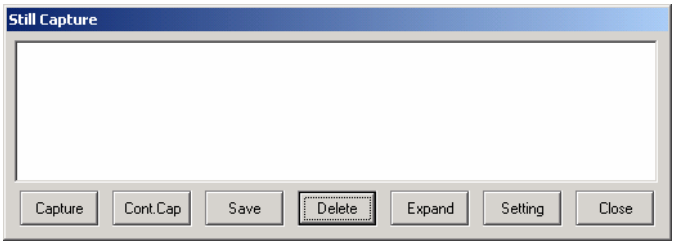
Using the File List Function

A List of available TLS files stored on the HDD (hard disk) is being shown on the OSD (**O**n-**S**creen **D**isplay). Chose a file from the OSD list to play it. In TV/SVIDEO/VIDEO mode, push the "Play/Pause" button of the remote controller to display the file List. In DVR mode, push the "Stop" button of remote controller twice to display the file List. Use the "Channel Up/Down" button of the remote controller to move the cursor up/down. Push "SEL" button of the remote controller to play the selected file. Use the "Volume Up/Down" button of remote controller to turn the pages of the file List. Push the "ESCAPE" button of remote controller to the remove File List.

Using Still Capture

You can capture a still image in TV or DVR mode.

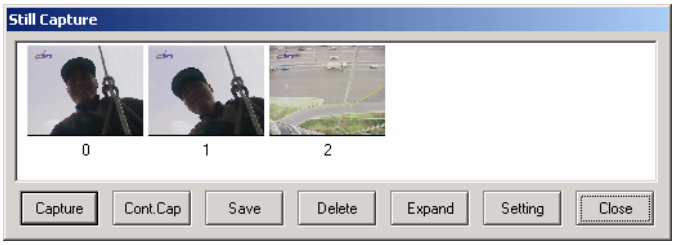
If you select "**Preview Captured image**" in the still capture option, click on the "SNAP" button to display the Still Capture dialog box.



Capture: Capture 1 still image

Continued Capture: Captures multiple still images at a time.

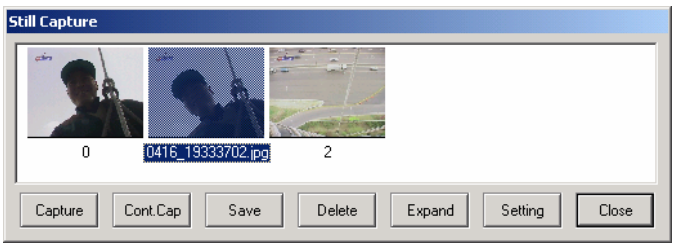
The following screen shot shows captured images. Captured images that have not been saved yet are automatically numbered.



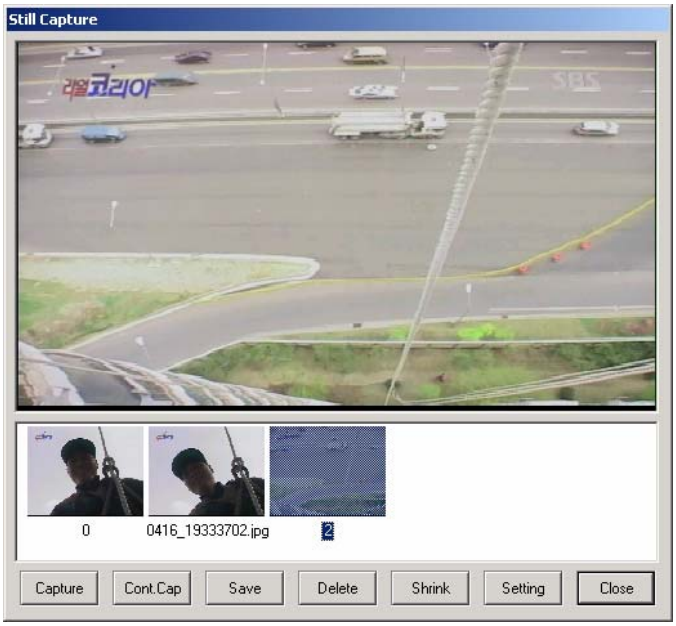
Save: Select- and save images. If "**Default File Name**" is selected in the still capture option, any selected files are saved with assigning default file names. If a "**Default File Name**" is not set in the still capture option, a File Save dialog box appears where the file name and path can be changed. When "**Save to JPEG**" is selected in still capture option, the file will than be saved in JPEG format. If JPEG has not being selected, any file will than be saved by default in BMP (bitmap) format.

Delete: Select images and delete images. When a selected image is being deleted and has not been saved yet, the temporary file of the image will be deleted from HDD (or other media), too. If an image that has been previously saved before, the saved image file on the HDD will not be deleted. Instead the still shot just disappears from the image list of the Still Capture dialog box.

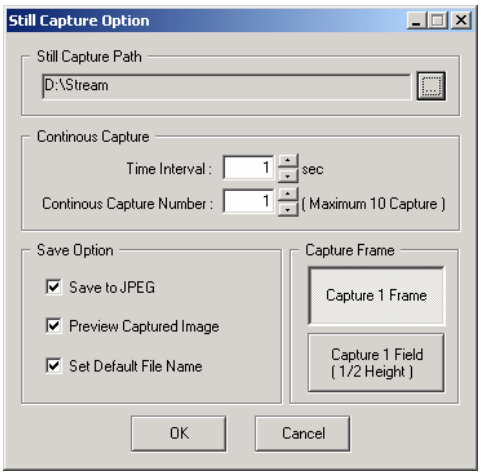
The following screen shot shows saved still shots.
The saved image file in this example has a name, while the other still shots are being numbered automatically.



Expand/Shrink: A picture listed in the still capture list can be either zoomed in or out. Click on the "Expand" button to view the zoomed-in picture. Click on the "Shrink" button to reduce the zoomed-in picture back to thumbnail size. In expanded state the selected picture is zoomed-in.



Option: Shows the still capture option dialog box. Please refer to the Still Capture Option section for more details.
Close: Closes the Still Capture dialog box.


Still Capture Option
Still Capture Path
D:\Stream
Continous Capture
Time Interval :
1
sec
Continous Capture Number :
1
(Maximum 10 Capture)
Save Option
Save to JPEG
Preview Captured Image
Set Default File Name
Capture Frame
Capture 1 Frame
Capture 1 Field
(1/2 Height)
OK
Cancel

Using D-VHS

You can record a Digital TV program to D-VHS or play content of a D-VHS tape by using the HiDTV PRO Card. Windows XP (Home or Pro) is required and an available IEEE1394 (firewire) port or firewire pci add-on card in your PC.

Installing D-VHS Driver

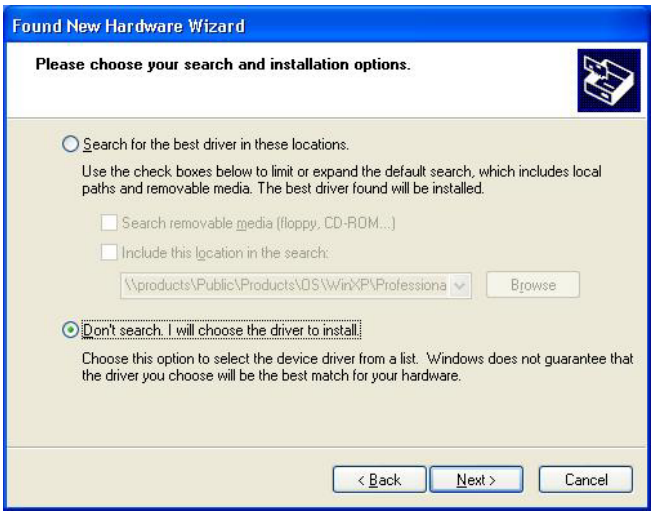
The first thing that will be noticed when connecting a JVC D-VHS to a Windows XP based PC via firewire are two "Found New Hardware Wizard" boxes which should have detected: AV/C Tuner and AV/C Tape:

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
AV/C Tuner
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

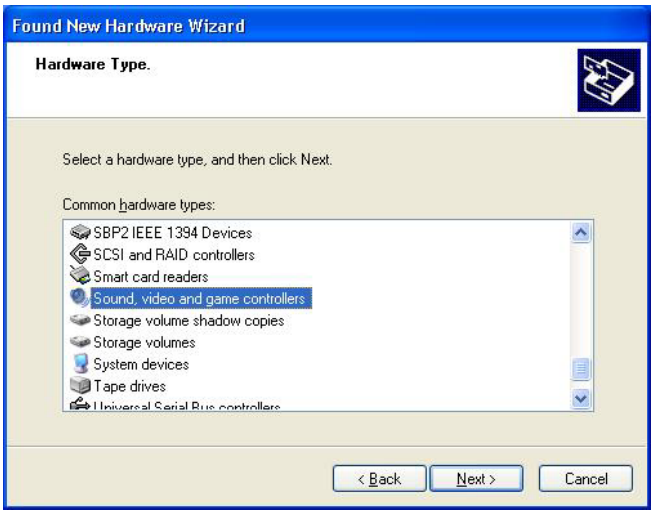
The "AV/C Tuner" detected is the NTSC tuner build into the D-VHS deck. There are no drivers for that necessary, so this step should be cancelled by closing the Wizard by clicking on "Cancel".

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
AV/C Tape Recorder/Player
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

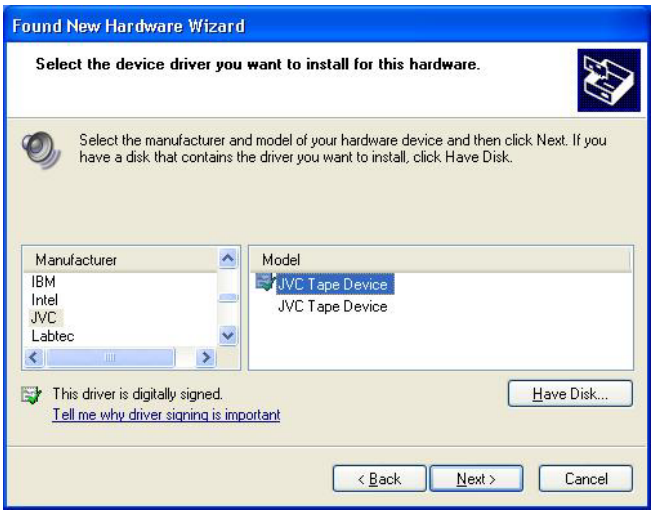
The next “Found New Hardware Wizard” window is the “AV/C Tape Recorder/Player” device. Please select the "Install from a list or specific location" option and click on “Next”.


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
\\products\Public\Products\OS\WinXP\Professiona
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

On the next page the "Don't search. I will choose the driver to install” option should be selected. Click on “Next”.



Please select the "Sound, video and game controllers" option and click on “Next”.


Found New Hardware Wizard
Select the device driver you want to install for this hardware.
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Manufacturer
IBM
Intel
JVC
Labtec
Model
JVC Tape Device
JVC Tape Device
This driver is digitally signed.
Tell me why driver signing is important
Have Disk...
< Back
Next >
Cancel

In this window please select "JVC" as the manufacturer and "JVC Tape Device" as the model and click on “Next”.

Found New Hardware Wizard
Completing the Found New Hardware Wizard
The wizard has finished installing the software for:
JVC Tape Device
Click Finish to close the wizard.
< Back
Finish
Cancel

Recording to D-VHS Tape

Make sure that the D-VHS deck is connected to the PC (WinXP) via firewire and the D-VHS driver has been successfully installed.

Set '**Digital TV Recording Mode**' to '**Records to D-VHS Tape**'.

Insert empty D-VHS tape to D-VHS deck, then click "REC" button to start recording.

While recoding is in progress, click "REC" button to stop recording

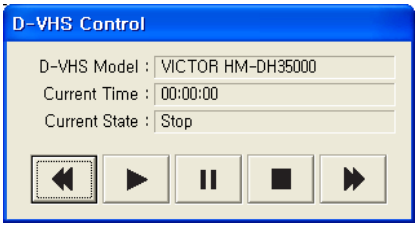
Playback D-VHS Tape

Make sure that the D-VHS deck is connected to the PC (WinXP) via firewire and the D-VHS driver has been successfully installed.

Insert a D-VHS tape into a D-VHS deck for playback purpose.

In DVR mode, set 'Play Mode' to 'Play D-VHS Tape'.

The D-VHS Control dialog box appears. The D-VHS deck can than be controlled by the D-VHS Control dialog box.

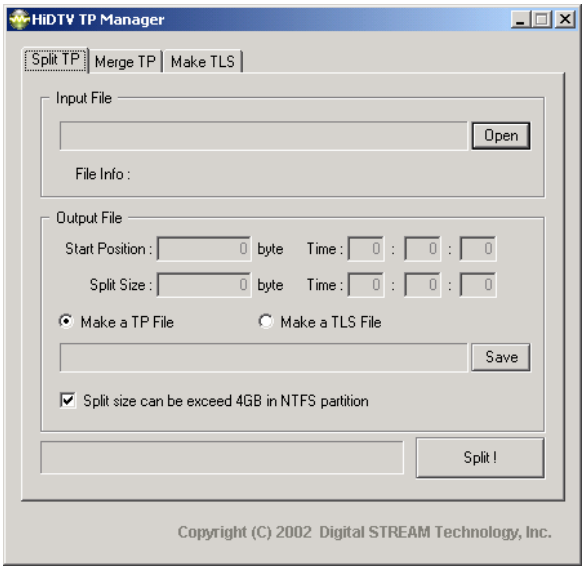


IV-8. Tools

TP Manager

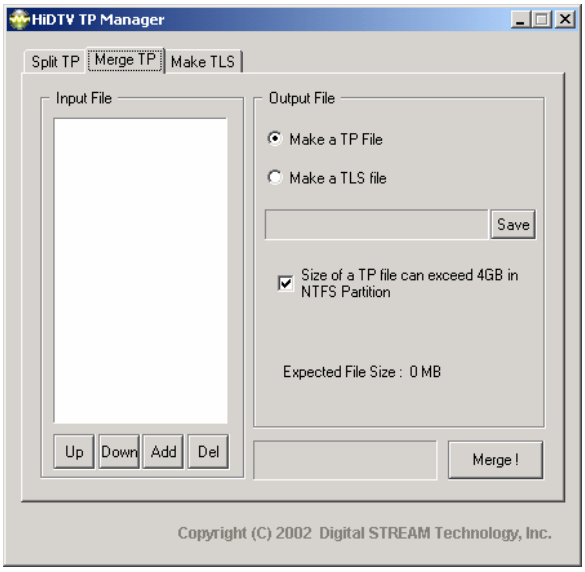
TP Manager is a utility for .tp file format editing. It can split, merge and listing .tp file for personal use.

Split TP



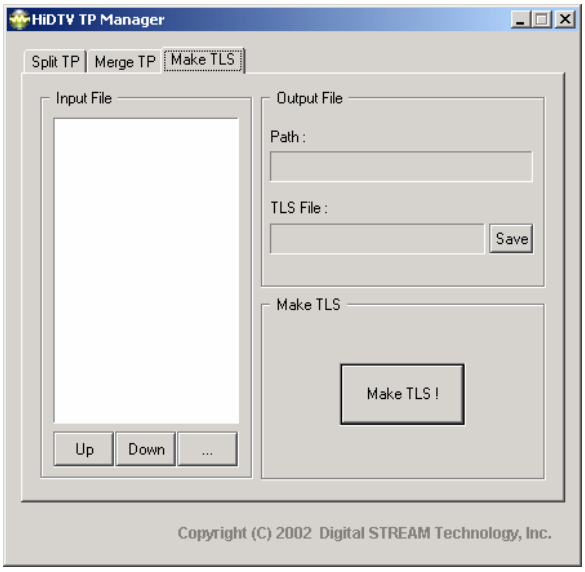
Click on the "Open" button to select a file to split (.tp, .tls). The "Start position" and "Split size" is user definable. The TP Manager can make a TP or TLS file and multiple TP files. Click on "Save" button to select an output file. Then click on the "Split" button to start splitting the desired file.

Merge TP



Click on "Add" button to merge the desired TP files. Change the order of TP files by clicking on the "Up" and "Down" button. Click on "Del" button to delete a TP file from the Input File list. The TP Manager can make a TP file or a TLS file and multiple TP files. Click "Save" on button to select an output file. Then click on "Merge" to start merging the files.

Make TLS

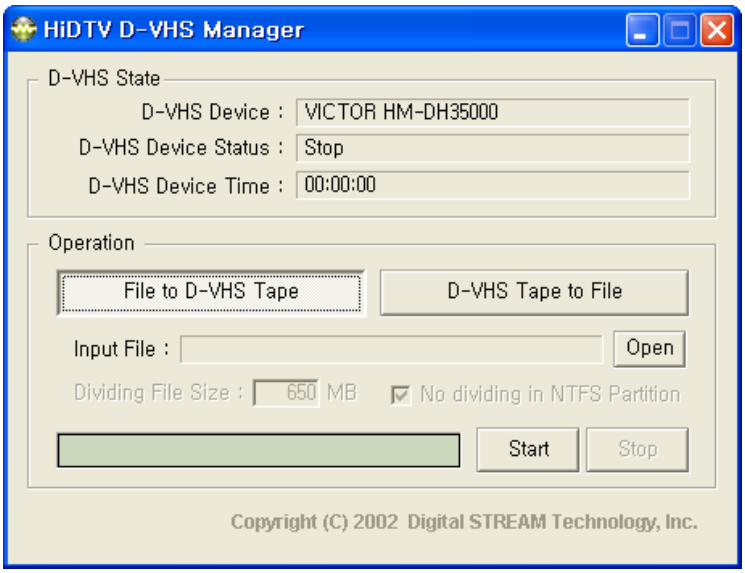


Click "…" button to add TP files to create a file list. Change the TP files order by clicking on

the “Up” or “Down” button. A TLS file contains the information of TP files that are in the same directory. Click on “Save” button to select an output TLS file. Then click on “Make TLS” button to create a TLS file.

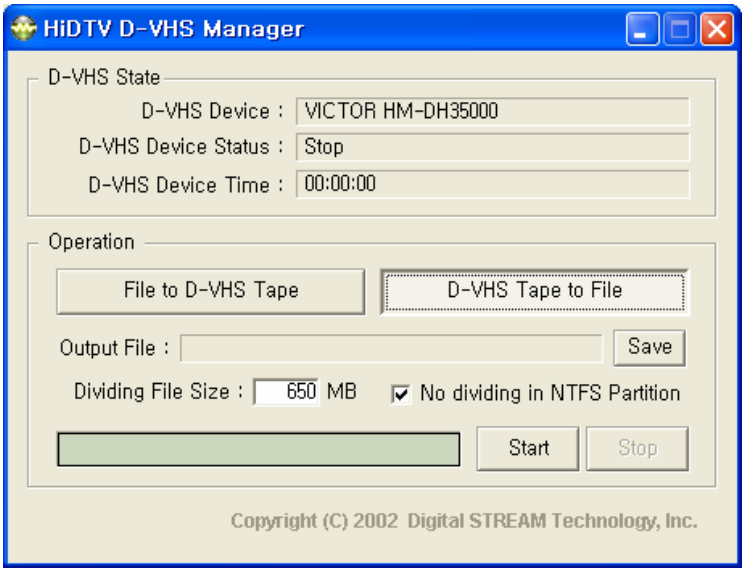
D-VHS Manager

D-VHS Manager is a utility for .tp file format transfers between a D-VHS deck and a PC. It only works on PC’s that have Windows XP Home or Pro version installed. Please make sure that a D-VHS deck is connected via firewire (IEEE1394) to a PC and that the D-VHS driver has been successfully installed.



File to D-VHS Tape

Please set the Operating mode to “File to D-VHS tape”. Click on the “Open” button to select an input file (.tp, .tls). Insert a blank D-VHS tape in the deck, than click on “Start” button and begin transferring the file(s). Click on the “Stop” button to end the transfer process.

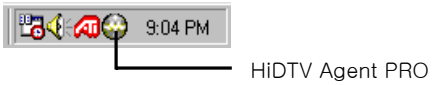


D-VHS Tape to File

Set Operation mode to 'D-VHS Tape to File'. Click on the "Save" button and select the output TLS file. Insert a D-VHS tape into the deck, than click on the "Start" button to begin the transfer process. Click on the "Stop" button to end transfer process.

IV-9. HiDTV Agent PRO

The HiDTV PRO Agent runs at system start-up and appears as an icon in taskbar tray.



By double clicking this icon (above), the HiDTV PRO Viewer is being started.

Menu Description

With the click of the right mouse button the following menu appears:

Run HiDTV PRO Viewer

Execute HiDTV PRO Viewer.

TitanTV EPG

Display TitanTV EPG website. You can schedule a recording through this site.

Scheduled Recording

Show Scheduled Recording dialog box (refer **Scheduled Recording** section).

Option Setting

Show Remote Controller Option Setting dialog box (refer **Remote Controller Option Setting** section).

Enable External Remote

Enable External Remote Controller input. The HiDTV PRO Viewer currently supports the Streamzap® USB IR remote controller and receiver.

Help

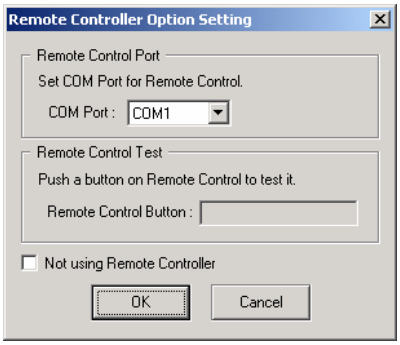
Show online help of HiDTV Agent PRO.

HiDTV Agent PRO...

Show information dialog box of HiDTV Agent PRO.

Remote Controller Option Setting

When selecting the “Option Setting” menu, the Remote Controller Option Setting dialog box appears.

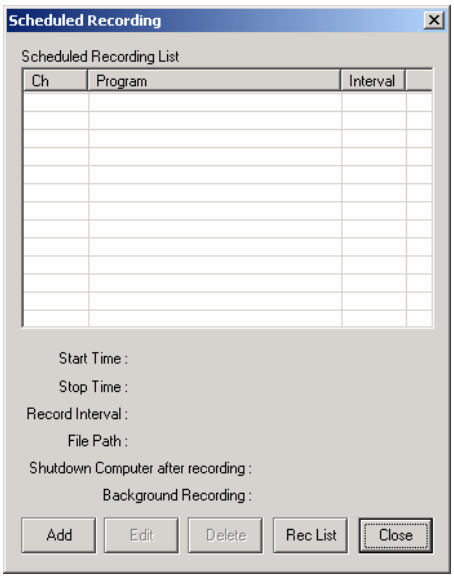


Select the appropriate COM port to which remote controller receiver is connected. Then press on buttons of the remote controller and test if an “OK” appears in the “Remote Control Button” field of the “Remote Controller Option Setting” dialog box. Please check the “Not Using Remote Controller” option when not wanting to use Serial Port remote controller receiver.

Scheduled Recordings (Timer Programming)

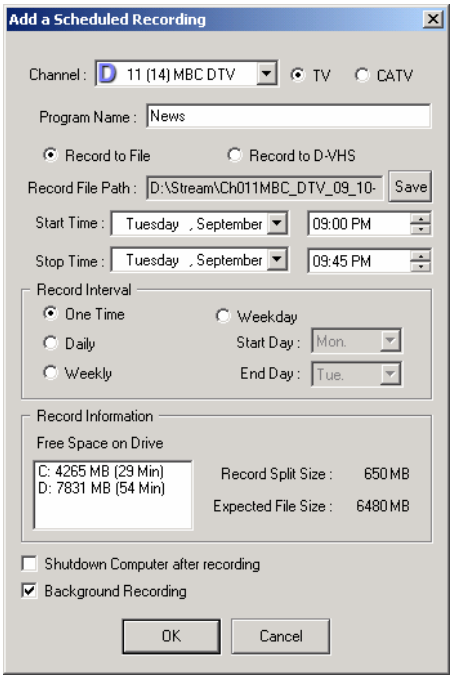
One of the HIDTV viewer's great features makes it possible to schedule digital ATSC (HDTV or SDTV) or analog NTSC recordings.

With the HiDTV PRO Agent is running in the taskbar, scheduled timer recordings can take place. Select "Scheduled Recording" (Timer Programming) menu to display the dialog box for it.



Add: Adds a scheduled recording.
Edit: Edits a scheduled recording.
Delete: Deletes a scheduled recording.
Rec List: Displays Record List dialog box of recorded files.
Close: Close Scheduled Recording (timer programming) dialog box.

Click "Add" button to show "Add Scheduled Recording" dialog box.



Channel: Selects recording channel. TV (Over-The-Air) or CATV (Cable) indicates the antenna type.

Program Name: Label the desired program name for the scheduled recording.

Record to File: Records a TV program to a file.

Record to D-VHS: Records a Digital TV program to D-VHS tape.

Path: File name and path for recording.

Start Time: Start time for recording.

Stop Time: Stop time for recording.

Record Interval options: **One-time**, **Daily** on the same time & channel and **Weekly** on the same time & channel. **Weekday** means that a recording will take place at the same time & channel for each selected weekdays.

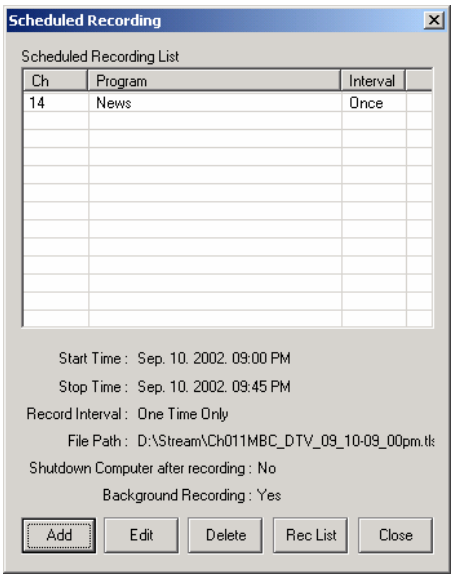
Record Info: Shows free space of every Hard Disk Drive (HDD) installed in the PC system.

Shutdown system after recording: Check this option to shutdown the system after scheduled recording.

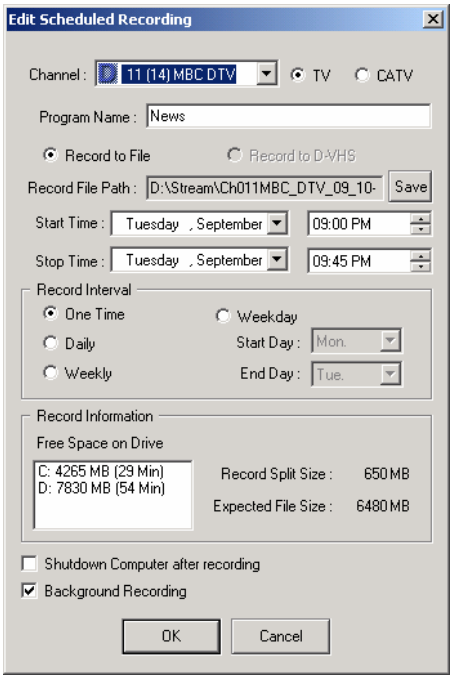
Background Recording: Record a TV program without executing and displaying the HiDTV PRO Viewer graphical user interface.

OK: Save the scheduled recording

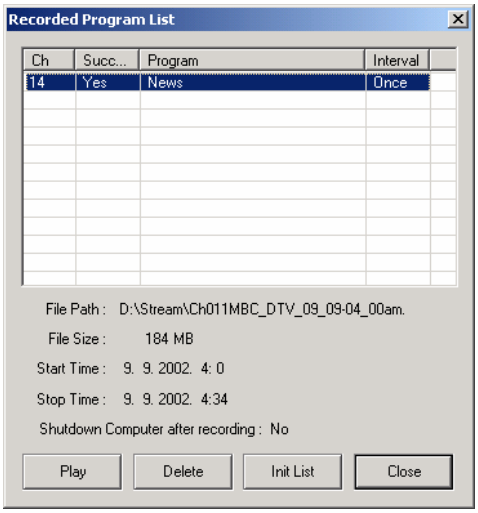
The following screen shot displays the scheduled Recording List (Timer programming) dialog box with one scheduled for timer recording sample:



If a scheduled timer recording needs to be edited or deleted, select the scheduled recording in the "Scheduled Recording List" and click on the "Edit" button. The "Edit Scheduled Recording" dialog box appears. Click on "OK" to save any changes.



The following screen shot displays the Record List dialog box of recorded programs:



Play: Select a recorded program and click on the "Play" button or double click with the mouse to play back the selected program.

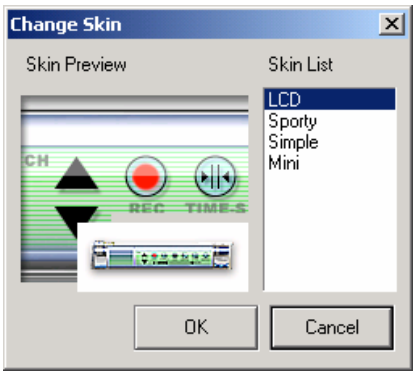
Delete: Delete **a single** program from the Recording **List**. Any Recorded files located on the HDD or other media are not being deleted.

Init List: Delete **all** programs from the Record **List**. Any Recorded files located on the HDD or other media are not being deleted.

IV-10. GUI Skin Management

Change Skin

Click on the "Skin" button of the Control Window to display the Change Skin dialog box.
Select the desired Skin type and click "OK" to change it.

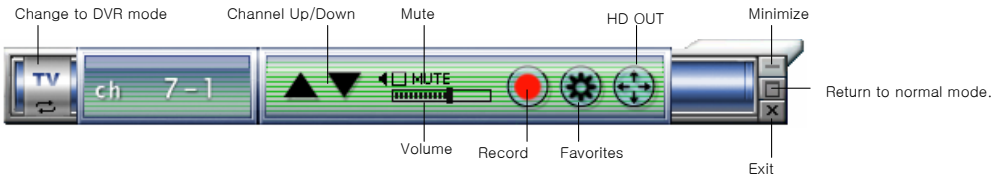


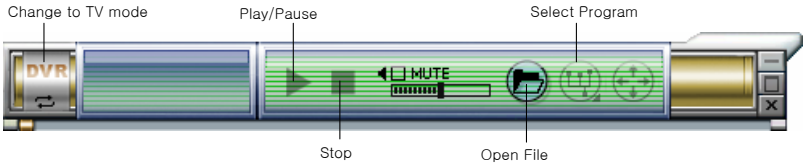
Skin types

LCD

The Default skin of HiDTV PRO Viewer:

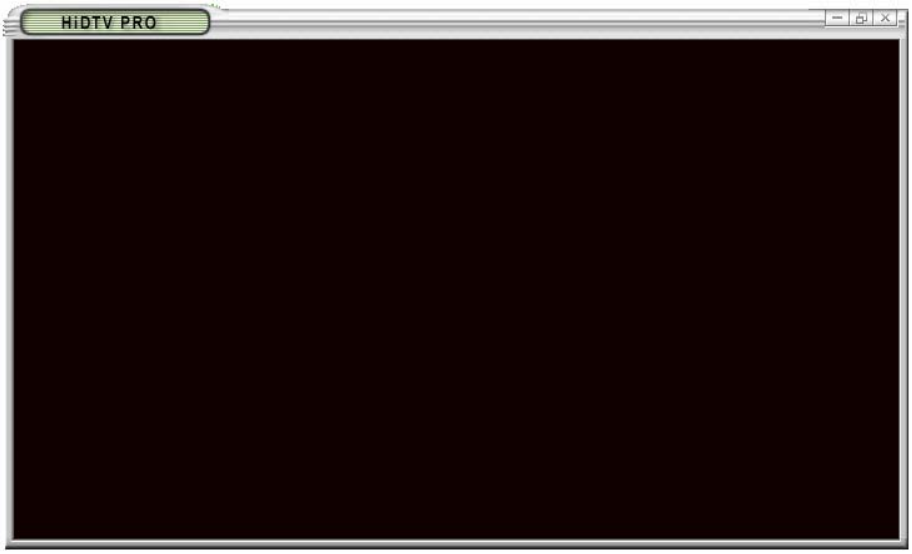
The Following screen shots are in "LCD" mini-mode skin of the Control Window.





Sports Theme

Overlay (Render) Window



Control Window – Normal mode in TV mode:

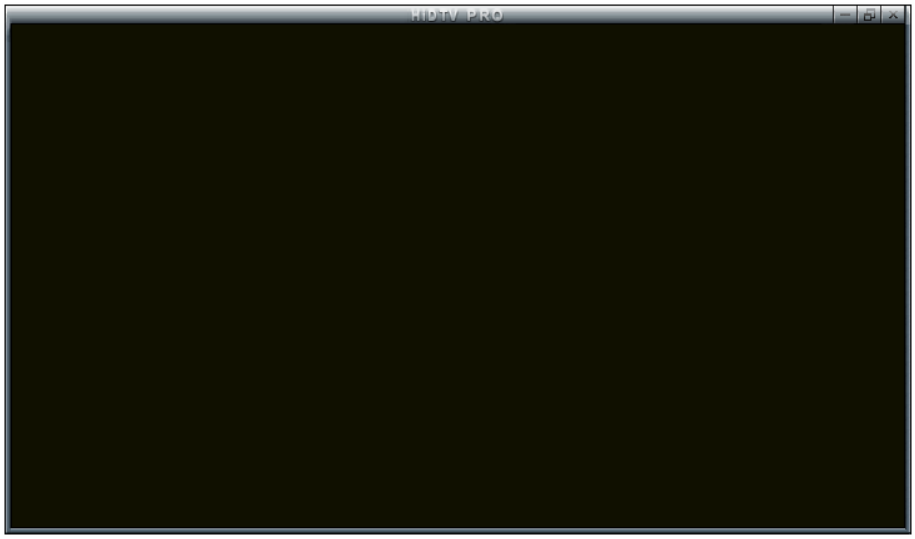
Control Window –in TV Mini-mode:

Control Window – Normal mode in DVR mode

Control Window –in DVR Mini-mode:

Simple

Overlay (Render) Window



Control Window – Normal mode in TV mode:

Control Window – Normal mode in DVR mode:

Simple skin does not offer mini-mode.

Mini

Overlay (Render) Window – TV mode

Overlay (Render) Window – DVR mode

Control Window – Normal mode in TV mode:

Control Window – Normal mode in DVR mode:

Mini skin does not offer mini-mode.

V. Appendix

V-1. Hotkeys Control

UP	Channel Up
DOWN	Channel Down.
LEFT	Decrease Volume
RIGHT	Increase Volume
Enter, Escape	HDOUT off
Alt + 1	Change the size of Render Window to minimal size.
Alt + 2	Change the size of Render Window to normal size.
Alt + 3	Change the size of Render Window to the size to fit to screen.
Alt + 4	Display Full Screen Video.
Alt + Enter	HD OUT On/Off.
Alt + F4	Exit HiDTV PRO Viewer.
Ctrl + 1	Fix the aspect ratio of Render Window to 16:9.
Ctrl + 2	Fix the aspect ratio of Render Window to 4:3.
Ctrl + 3	Do not fix the aspect ratio of Render Window.
Ctrl + P	Pause TV video. (TV/CATV/SVIDEO/VIDEO)
Ctrl + D	Change Display mode. 16:9 Monitor: No Conversion -> Sidebar mode 4:3 Monitor: No Conversion -> Letterbox mode -> Pan & Scan mode
Ctrl + Shift + 1	Change Display mode to No Conversion.
Ctrl + Shift + 2	Change Display mode to Letterbox mode.
Ctrl + Shift + 3	Change Display mode to Pan & Scan mode.
Ctrl + Shift + 4	Change Display mode to Sidebar mode.
Number Key in Keypad	Change channel by Major channel number.
Number key in Keyboard	Change channel by RF channel number.
Ctrl + Back Space	Jump to start position of the playing file.

Ctrl + LEFT	Jump to the position that is 5 seconds backward from current position.
Ctrl + RIGHT	Jump to the position that is 5 seconds forward from current position.
Ctrl + Shift + LEFT	Jump to the position that is 30 seconds backward from current position.
Ctrl + Shift + RIGHT	Jump to the position that is 30 seconds forward from current position.
Ctrl + Alt + LEFT	Jump to the position that is 1 minute backward from current position.
Ctrl + Alt + RIGHT	Jump to the position that is 1 minute forward from current position.
Ctrl + Alt + Shift + Left	Jump to the position that is 5 minutes backward from current position.
Ctrl + Alt + Shift + RIGHT	Jump to the position that is 5 minutes forward from current position.
Space bar	Play/Pause
Ctrl + F	Display File List on OSD.
UP	(In File List) Move Cursor Up.
DOWN	(In File List) Move Cursor Down.
LEFT	(In File List) Scroll up File List for 1 page.
RIGHT	(In File List) Scroll down File List for 1 page.
Enter	(In File List) Play selected file, Change Folder.
Escape	(In File List) Remove File List.

V-2. Specification

HiDTV PRO 2.0 Detail Specification

Section	Provision	Details
Antenna Input	Input Frequency	45Mhz ~ 860Mhz (VSB)
	Antenna Impedance	75 Ohms
	Connector Type	IEC 169-2, Female , F type(VSB)
	Symbol Rate	10.76 MS/s (VSB)
Demultiplexer	Stream Type	MPEG-2 Transport Stream
	Data Transfer Speed	Up to 40 Mbps
	PID	Control up to 32 PID
Video	Algorithm	HDTV: MPEG-2 Main Profile @ High Level
		SDTV: MPEG-2 Main Profile @ Main Level
	Decoding Type	ATSC Digital TV Standard
	Video Output Resolution	HDTV: 1920x1080i, 1280x720p SDTV: 704x480p*, 704x480i PC: 1024x768p *Also known as EDTV (Enhanced Digital TV)
	PCI Bus Interface	704x240p
	VIP 1.1	704x480i
Audio	Mode	Dolby Digital (AC3) , PCM
	Sampling Rate	32, 44.1 and 48 KHz
	Frequency Property	20Hz ~ 20Khz, <+/- 2 dB
		60Hz ~ 18Khz, <+/- 0.5 dB
A / V Output	External AV Connector	HD: D-Sub 26 pin
	Video Output signal	YPbPr
	VIP Port	VIP 1.x (34 pin Header)
	Audio Output	ATSC: Support Dolby Digital 5.1 software decoding (S/PDIF) NTSC: Stereo Audio Capture over PCI (48Khz) Stereo Audio Bypass to Output 32, 44.1 and 48Khz)
	Audio Connector	4 Pin Header (NTSC), 1 RCA (S/PDIF, Digital), 2 Pin Header (S/PDIF On Board)

A / V Input	VGA Video Input	D-Sub 15 (Analog RGB)
	Video Signal Input	S-Video, Composite Video, Audio L / R
Function	Digital Terrestrial Broadcast Receive	Support
	Record / Replay	Up to Maximum HDD size, Random Access
	Remote Control	Support (Multiple Function)
	Zoom	Zoom-In on No Conversion Display Mode
	GUI Skin	Support (Default: 4 Skins)
	Still Capture	Original Source Size Support
	4:3 Display Mode	Display 16:9 Video on 4:3 Monitor in 1080i, 720p, 480p, 480i, 1024x768p
	Side Bar Mode	Display 4:3 Source in 16:9 Monitor
	VIP 1.1	VGA Compatibility
	Scheduled Recording	Up to 1 Month
	On Screen Display	Support (Signal Strength, Channel Name, Volume Control, File List Control)
PC & Software Interface	PCI Bus	PCI Bus Specification 2.1 Compatible 33Mhz or 66Mhz PCI bus speed
	Operating System	Microsoft ® Windows 98SE / Me / 2000 / XP
Frame Buffer Memory	SDRAM	16M bytes

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